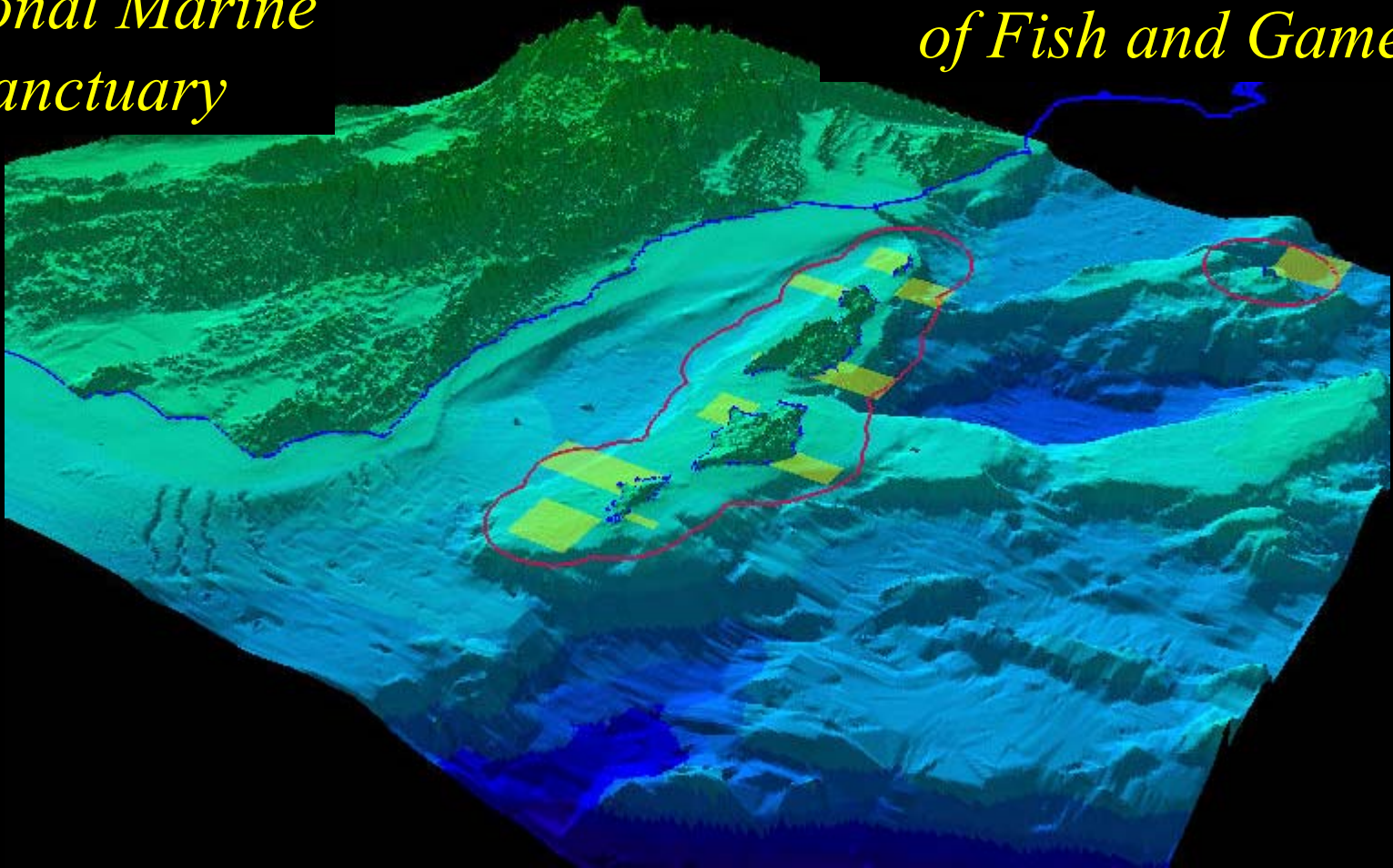
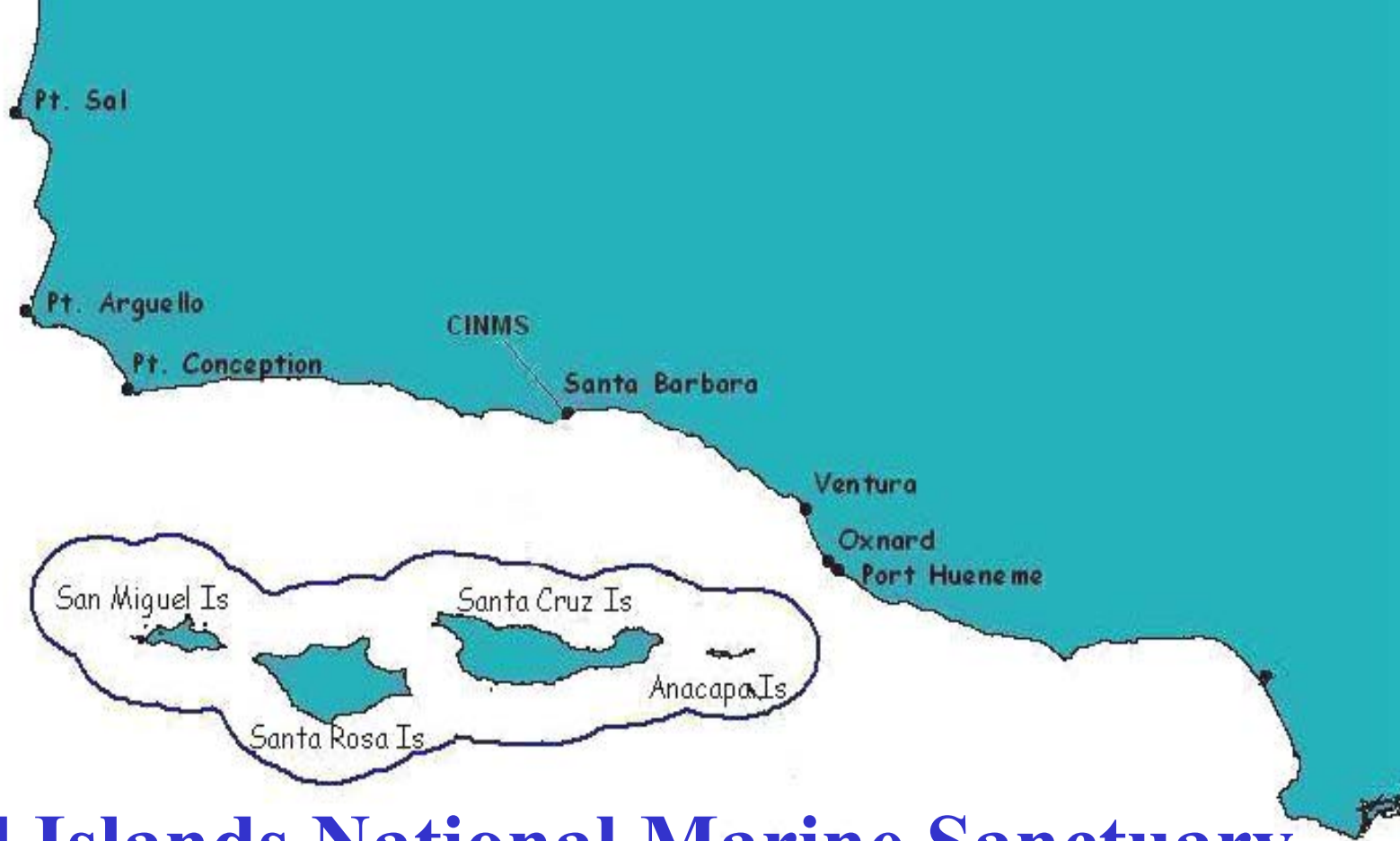


Channel Islands Marine Reserves Process

*Channel Islands
National Marine
Sanctuary*

*California Department
of Fish and Game*





Channel Islands National Marine Sanctuary

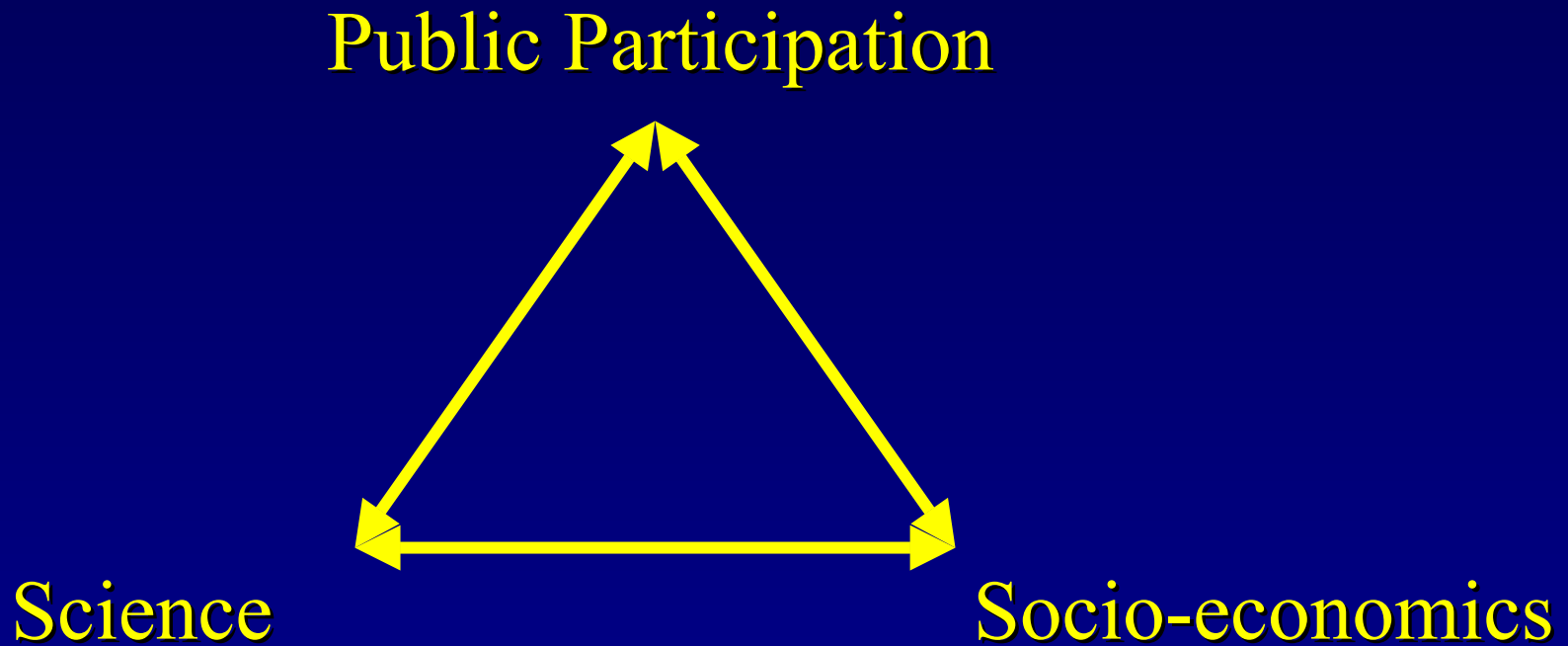
Designated: 1980

Size: 1252 square nautical miles

Santa
Barbara Is.



Marine Reserves Working Group Process

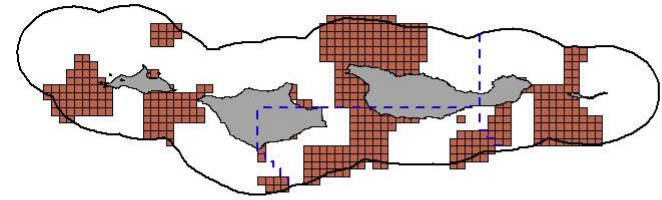


Scientific Analysis

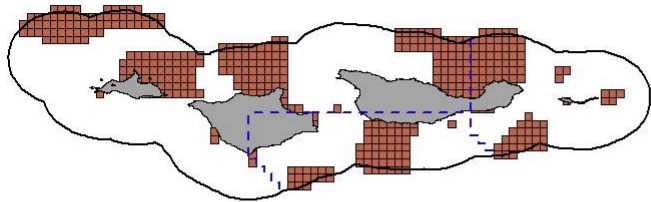
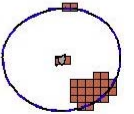
- **17 Member expert scientific panel**
- **“SITES” Computer model using 45,000 ecological data points**
- **Modeling run 1,500 times – Each time using 1 million iterations**
- **Multiple possible solutions provided in a graphical format**
- **92 Scientific journal articles reviewed**

Scientific Range of Solutions

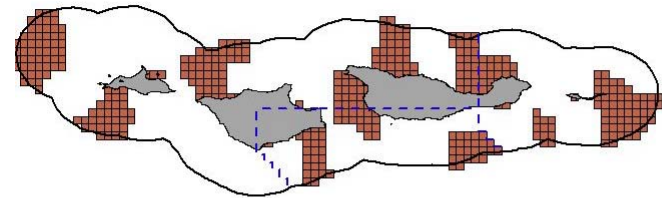
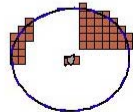
30% set aside



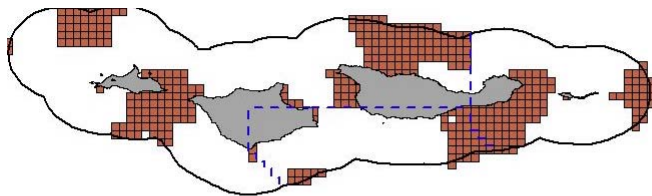
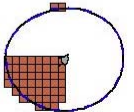
Solution 1



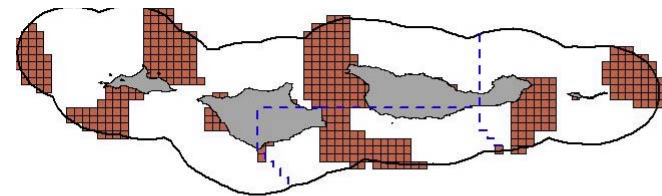
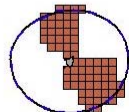
Solution 2



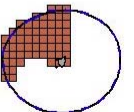
Solution 3



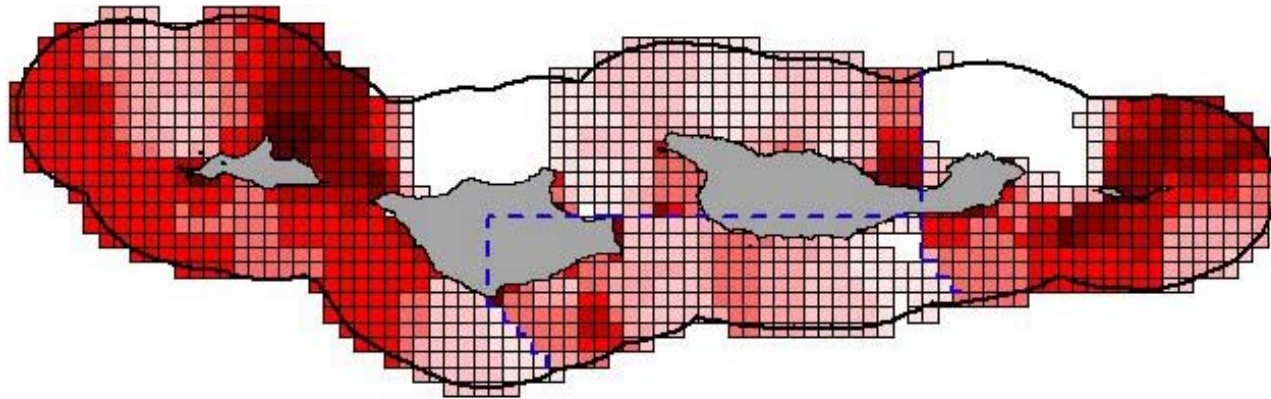
Solution 4



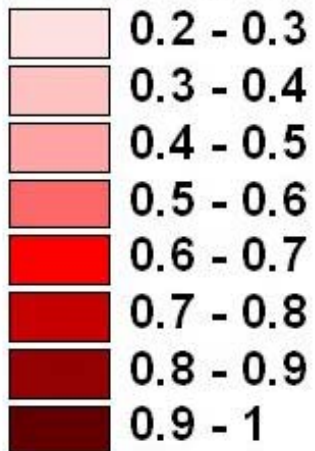
Solution 5



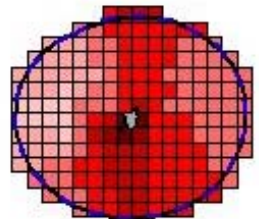
The “Summed” Solution



Conservation Value



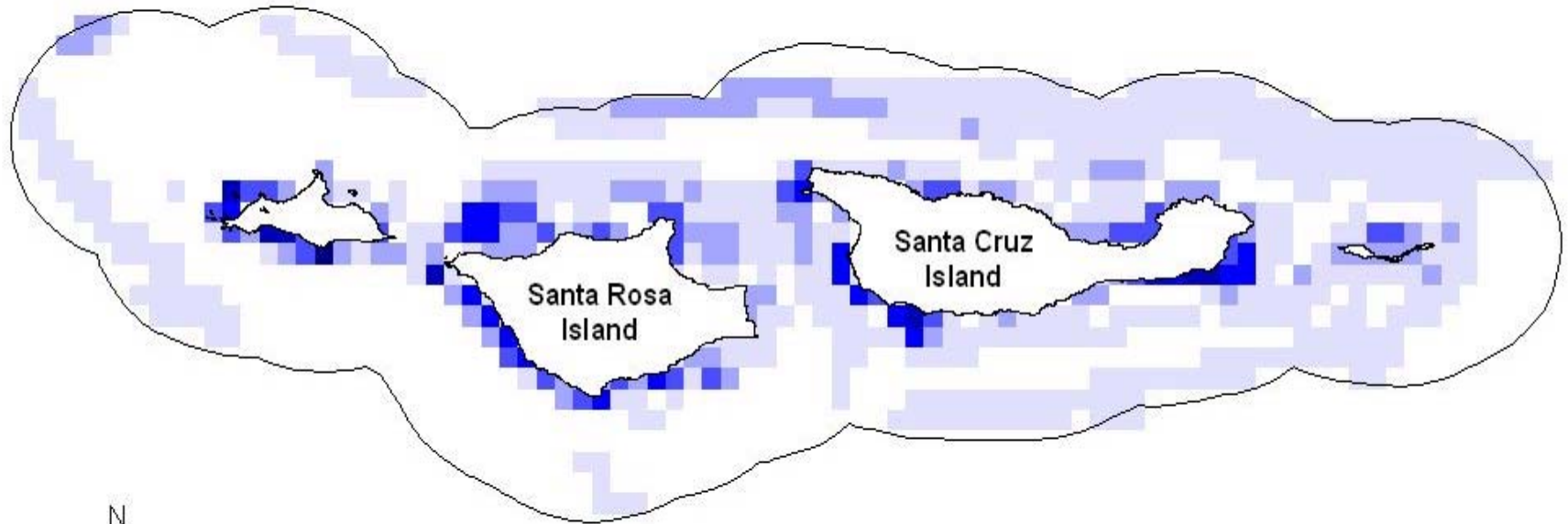
**The number of times each
planning unit was included
in a final solution.**



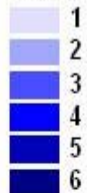
Socio-Economic Analysis

- 26,000 Economic data points
- 3,000 Aerial survey data points
- 45 Interviews with local resource users
- 120 Pages of ethnographic survey report
- 24 Composite maps of resource and activity distribution
- As a starting point, “Maximum Potential Loss” is estimated – This does not estimate potential benefits

Composite Fishing Activity



Exclusion Zones



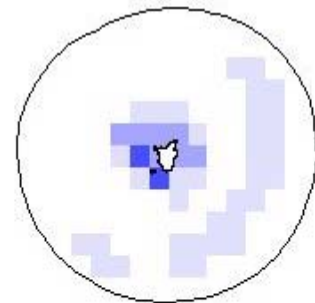
10 0 10 20 Miles



SPECIES LIST

Abalone
Crab
Gill Nets
Kelp
Lobster
Live-fish
Prawn
Sea Cucumber
Urchin

Santa Barbara Island

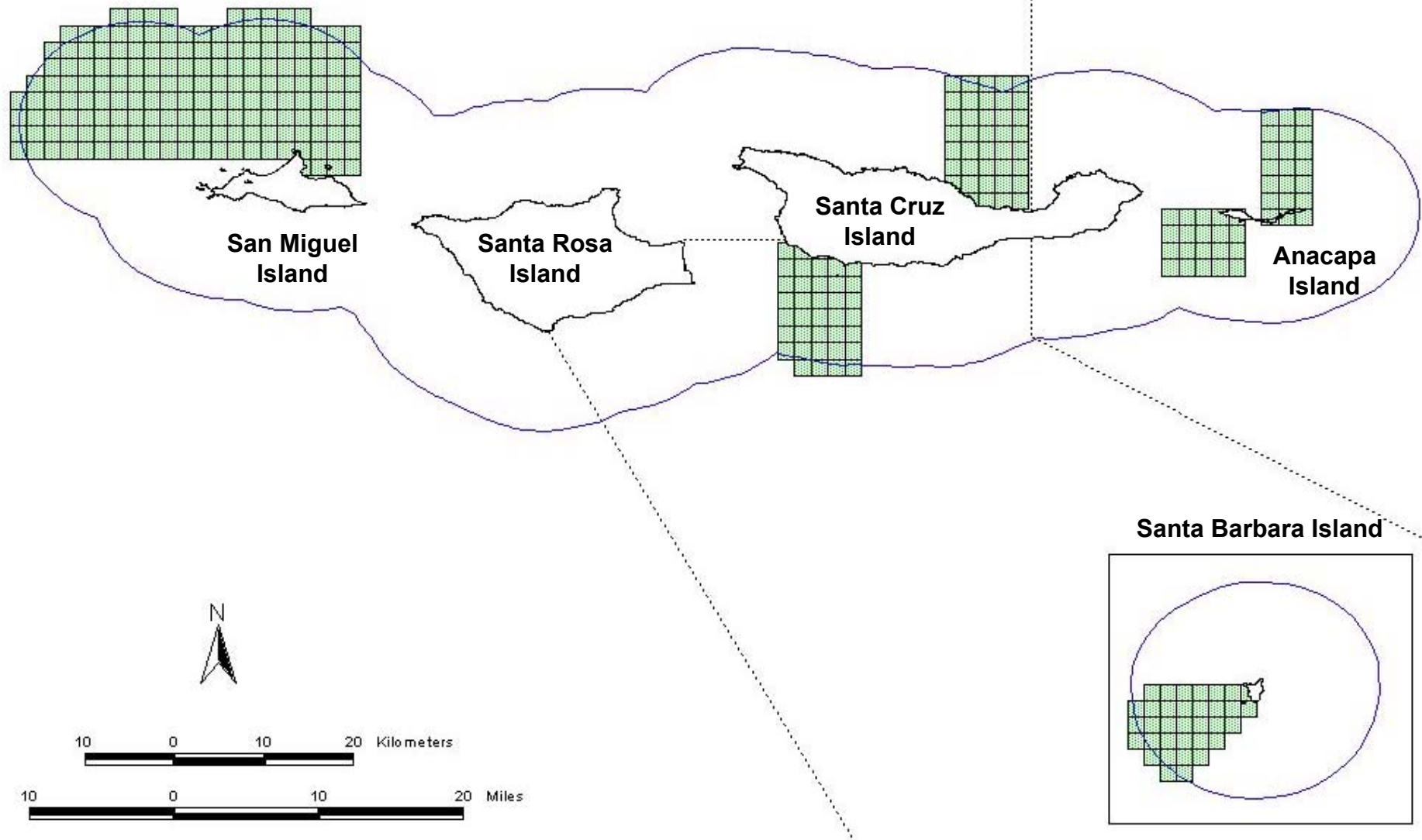


Public Input and Awareness

- **22 Public meetings (over 3 year period)**
- **4 Large interactive public forums (200-350 people per event)
mailing list of 1,400 developed for notices and updates**
- **More than 9,000 written comments received
(95%+ in support of designating reserves)**
- **More than 125 articles in local, regional, and national print media**
- **30 + Maps produced and analyzed**

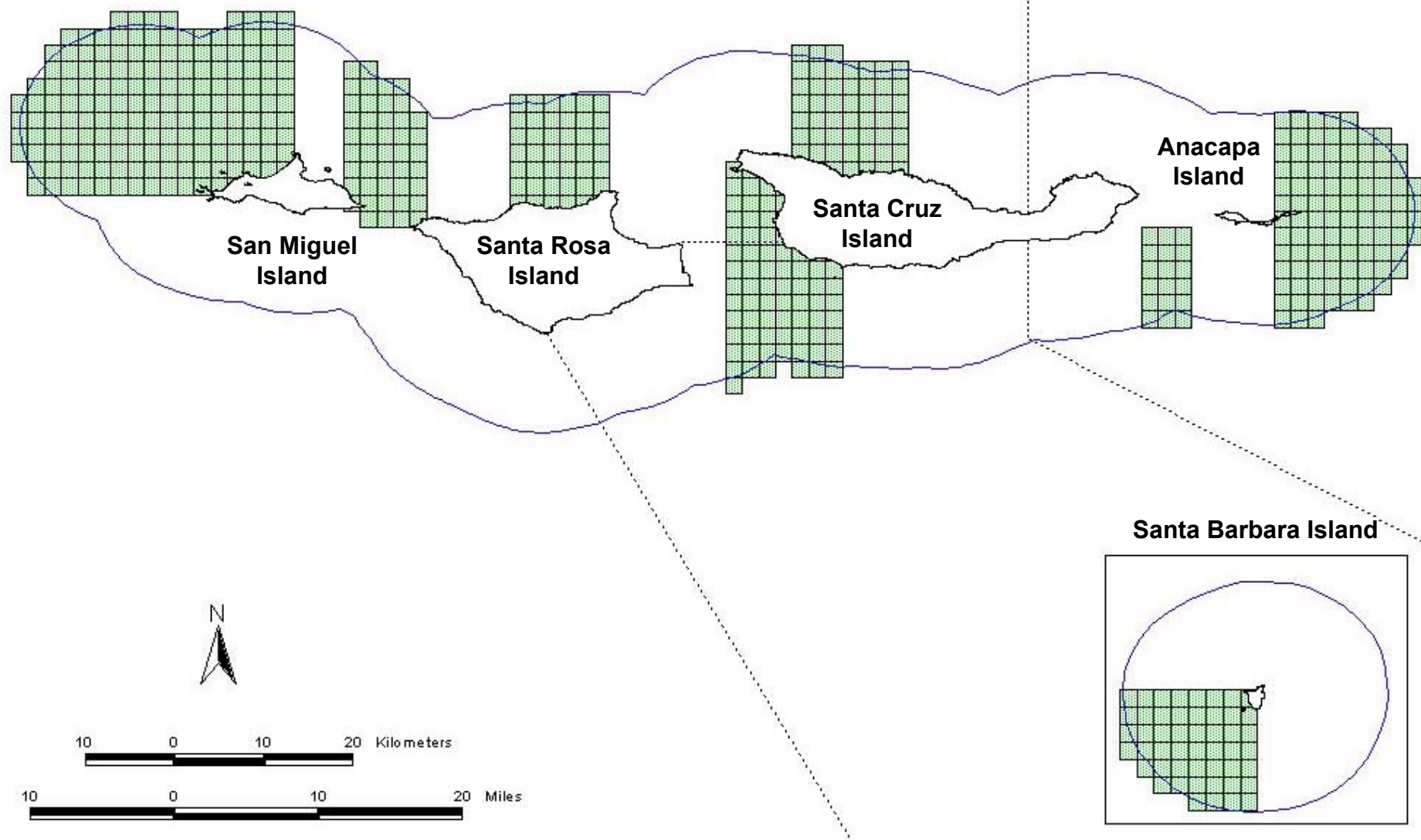
Marine Reserve Concept A1

September 27, 2000



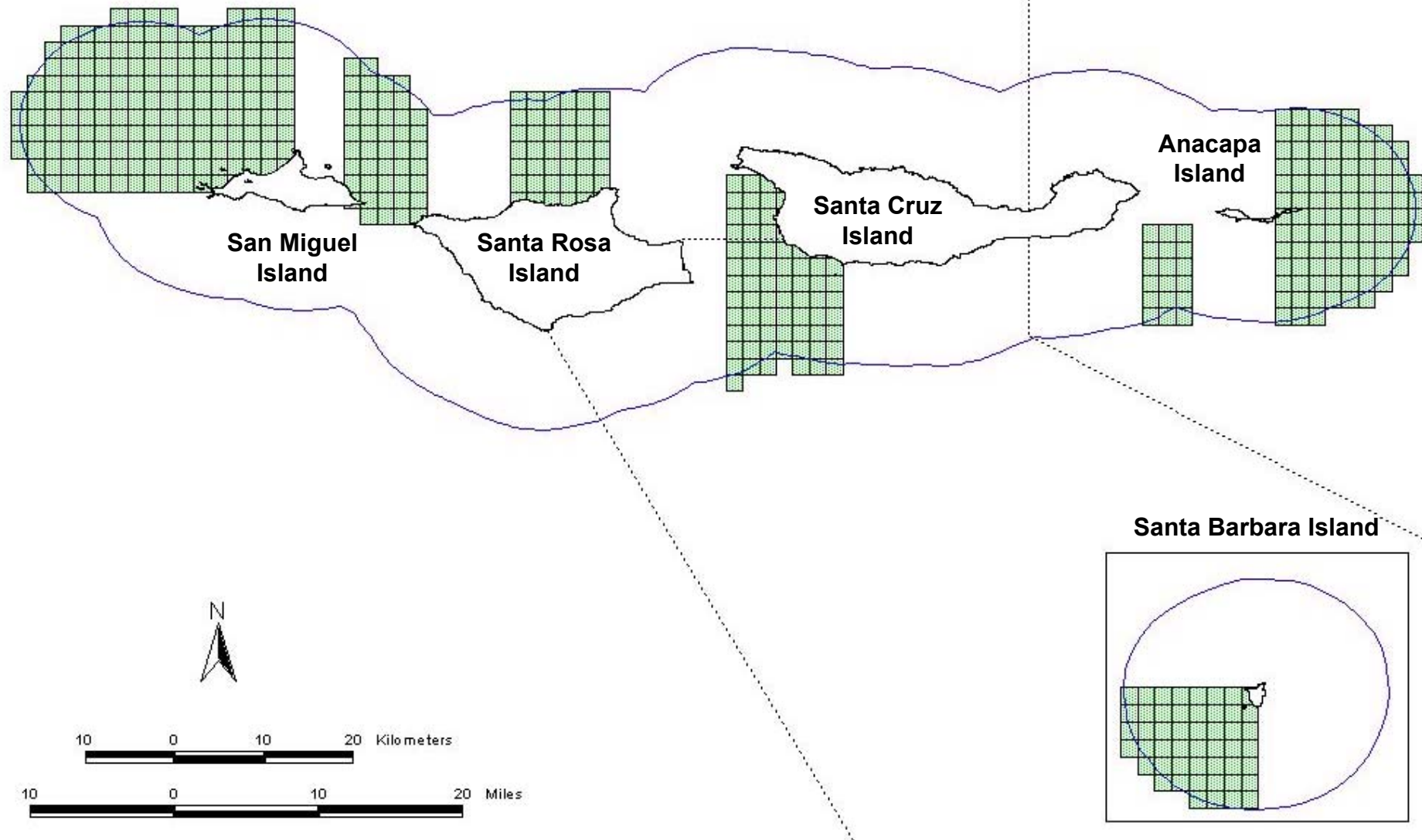
Marine Reserve Concept B1

September 27, 2000



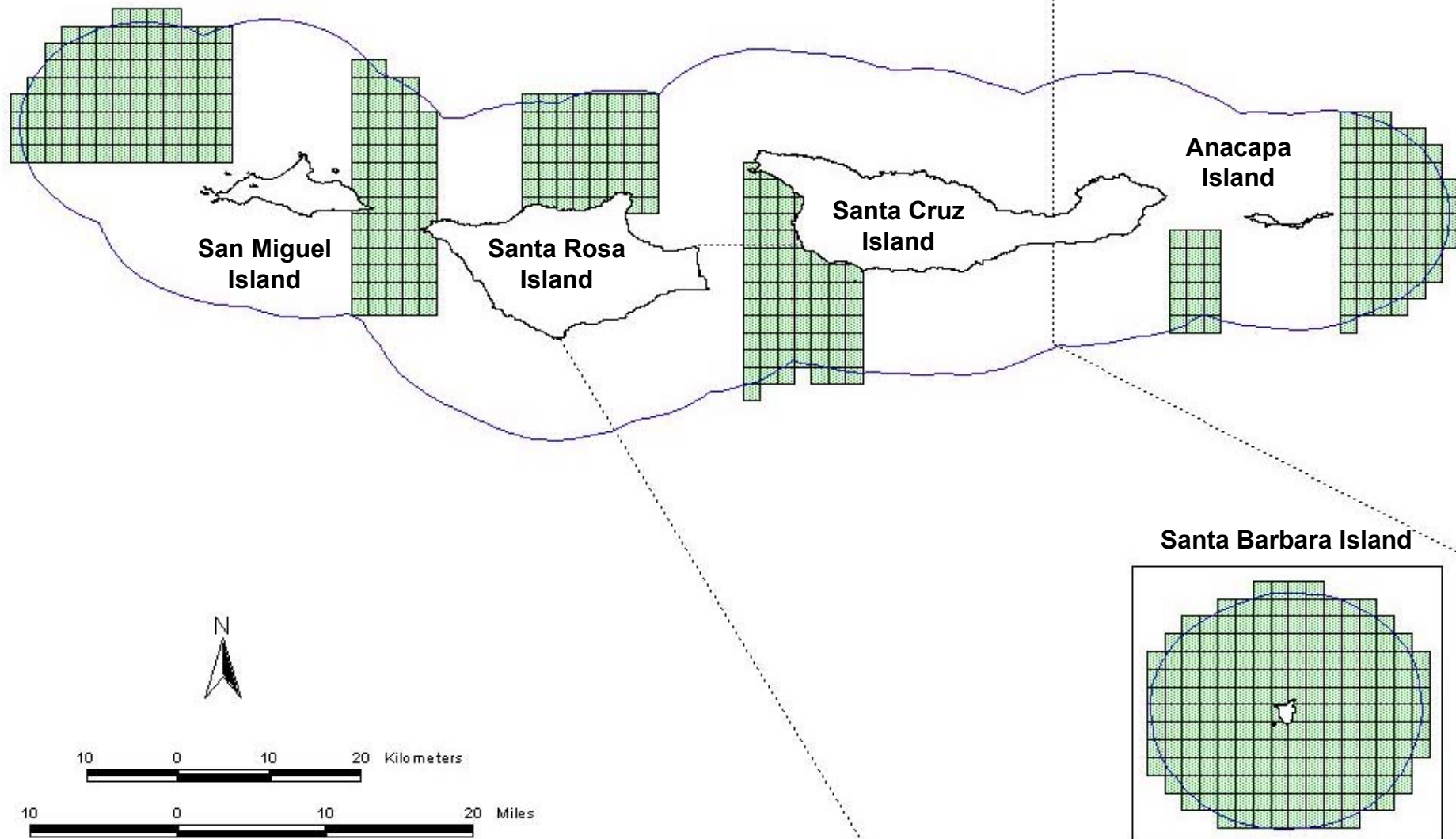
Marine Reserve Concept B2

September 27, 2000



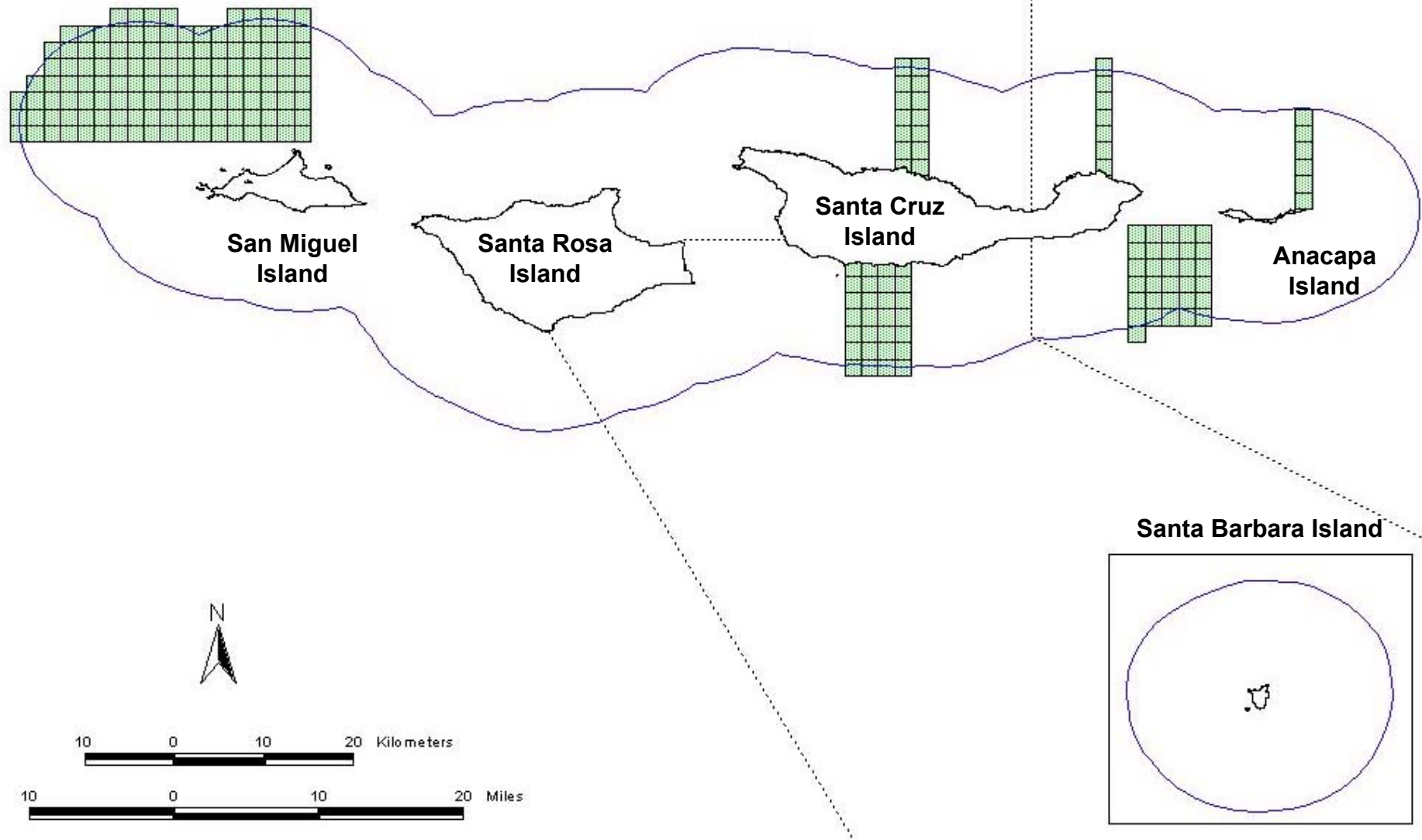
Marine Reserve Concept B3

September 27, 2000



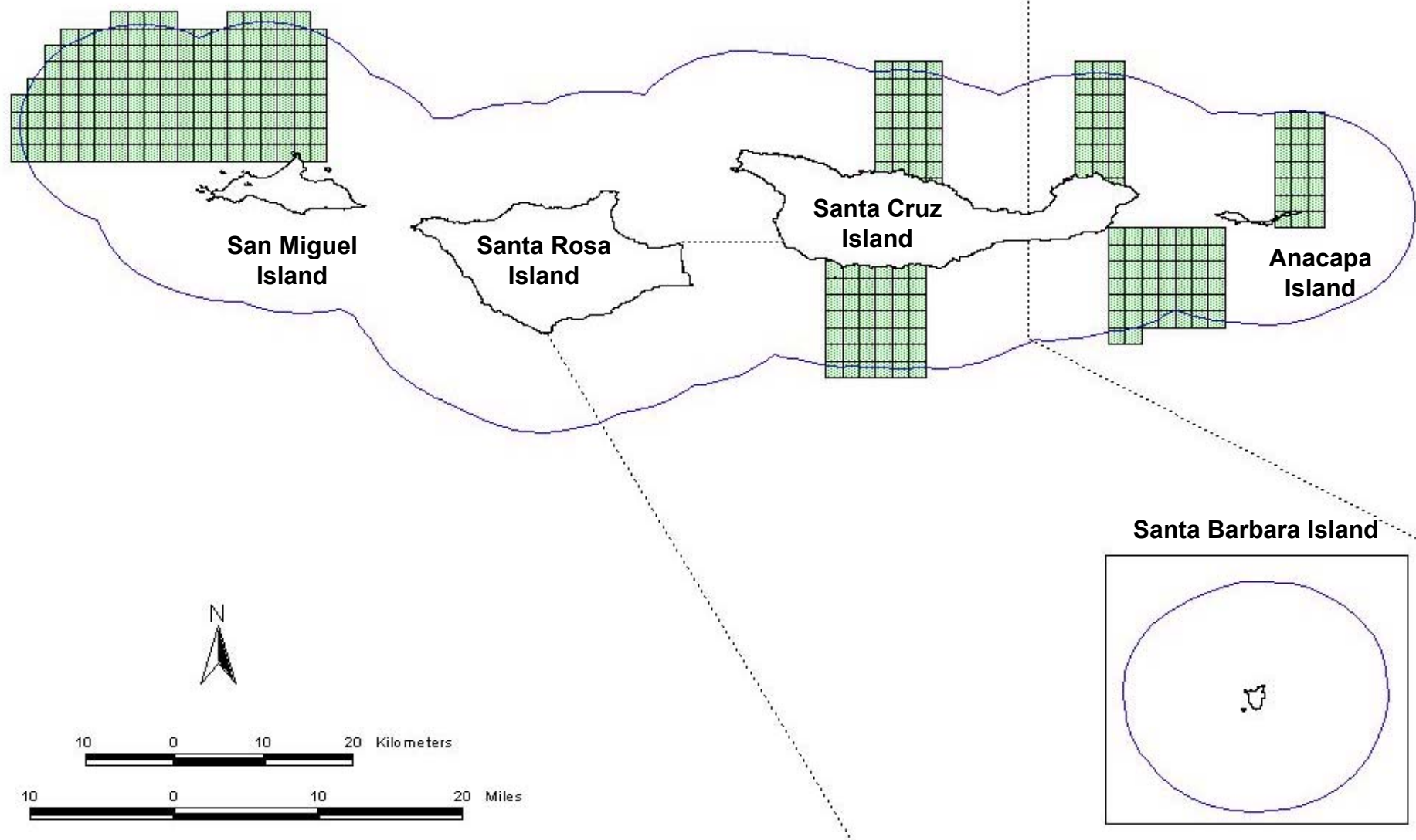
Marine Reserve Concept C1a

September 27, 2000



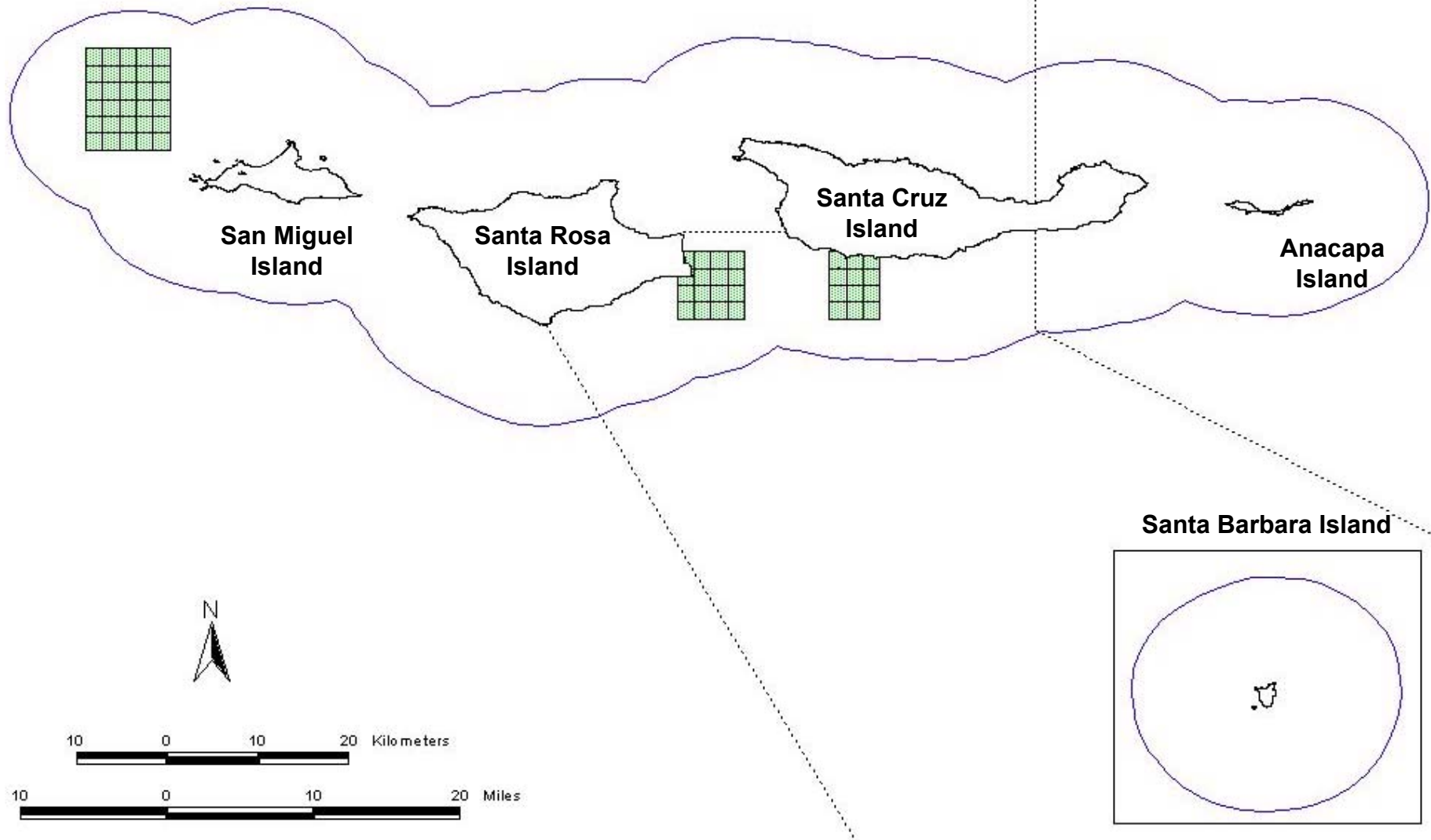
Marine Reserve Concept C1b

September 27, 2000



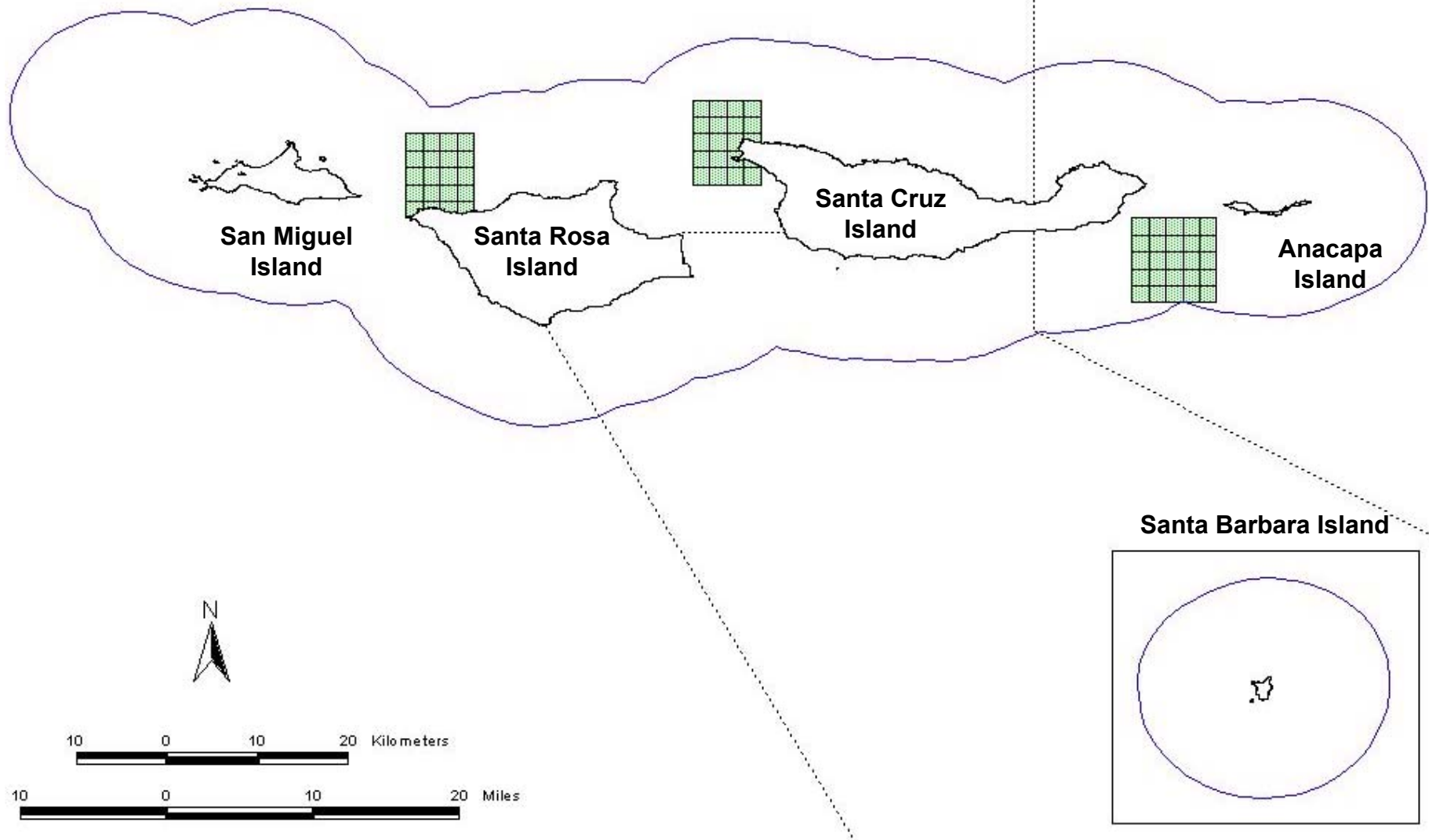
Marine Reserve Concept C2a

September 27, 2000



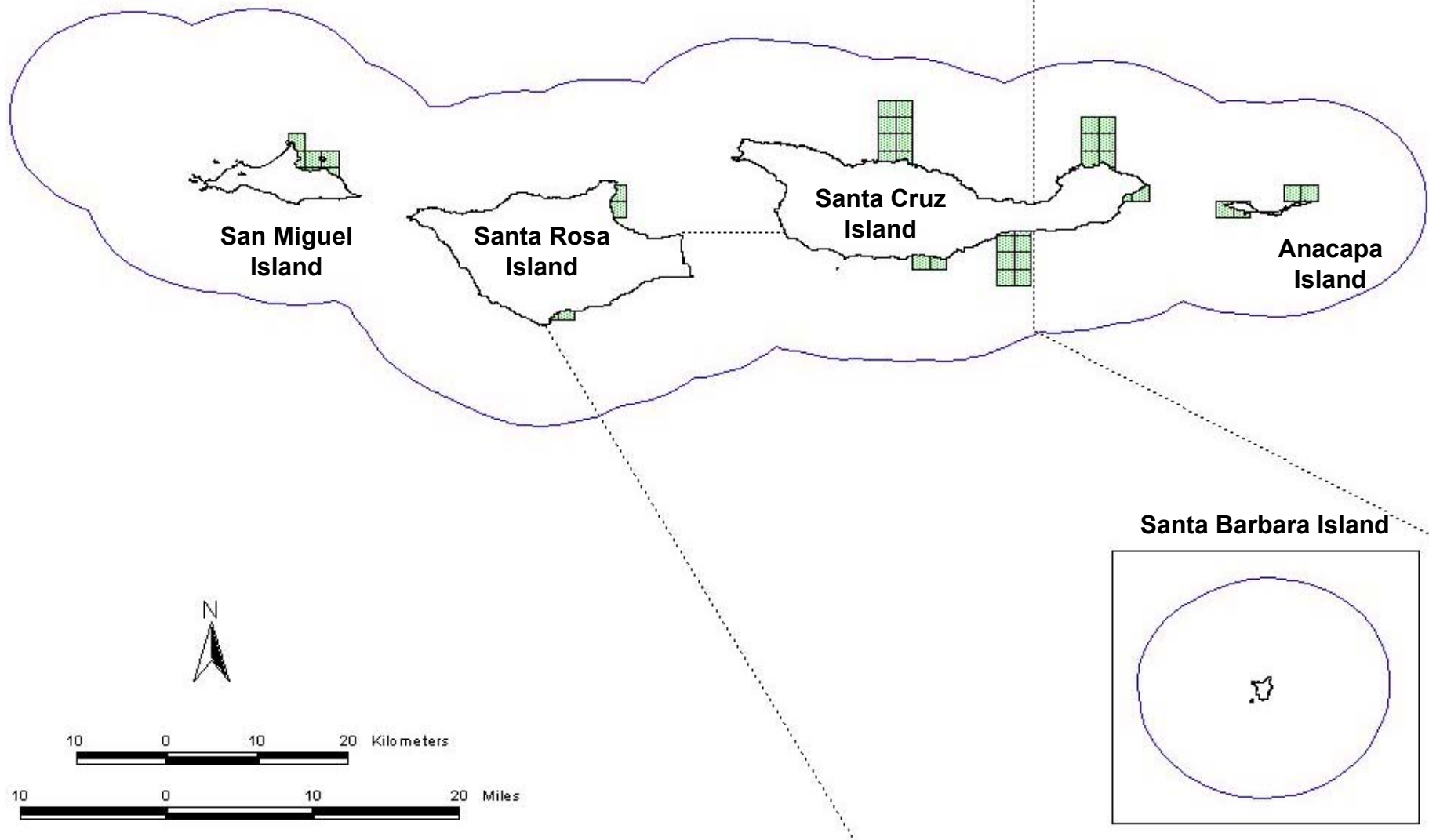
Marine Reserve Concept C2b

September 27, 2000



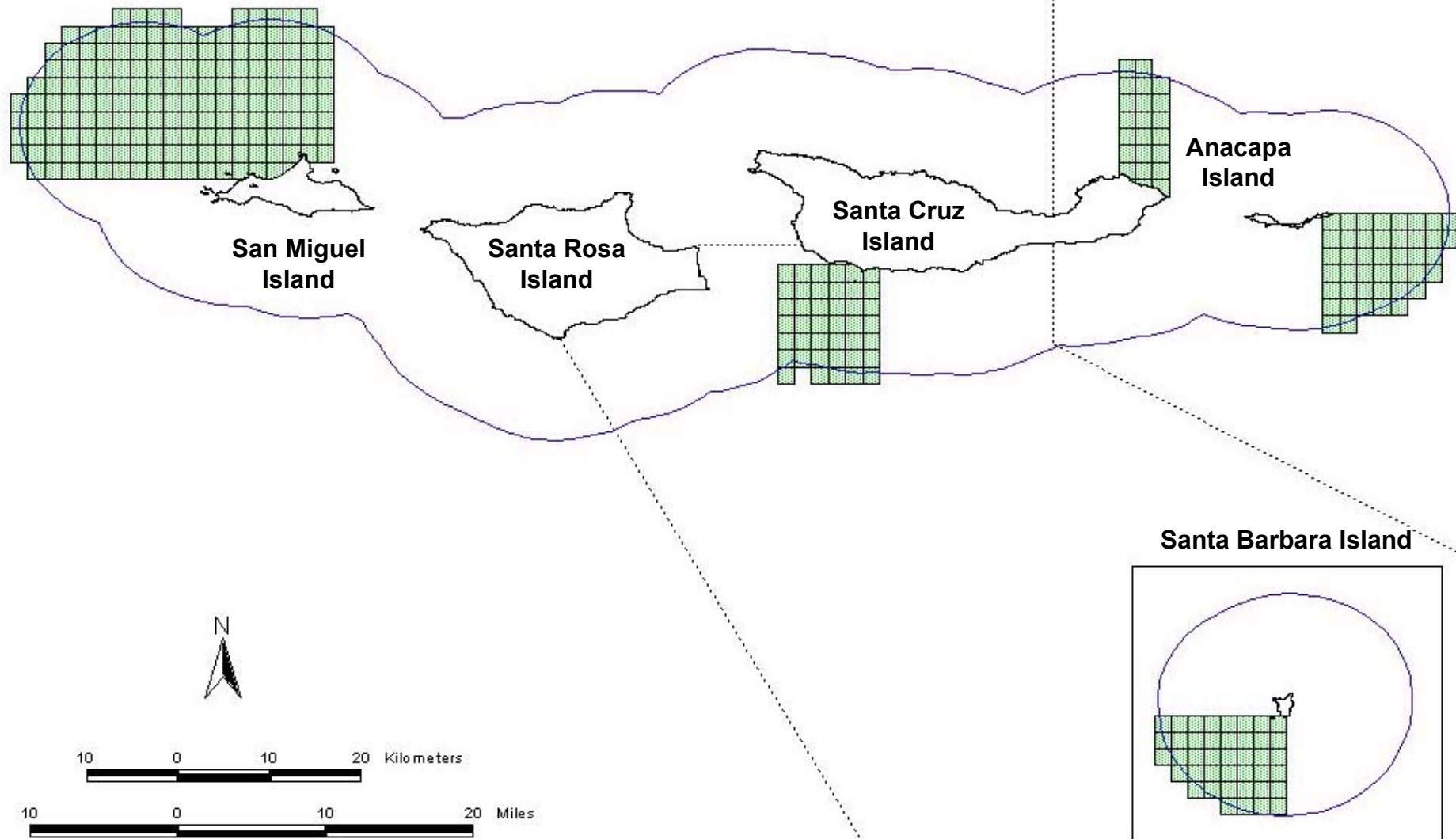
Marine Reserve Concept C2c

September 27, 2000



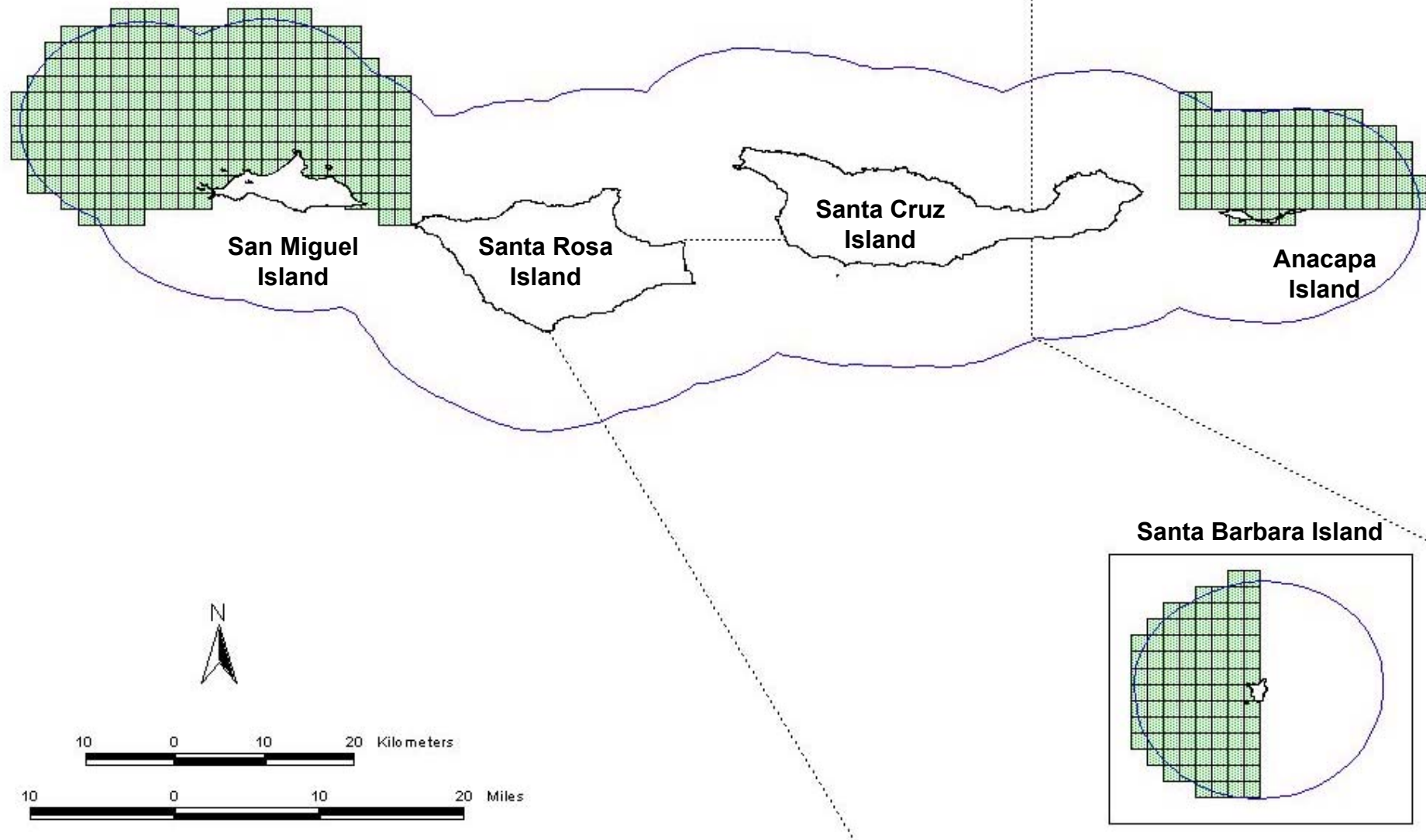
Marine Reserve Concept D1

September 27, 2000



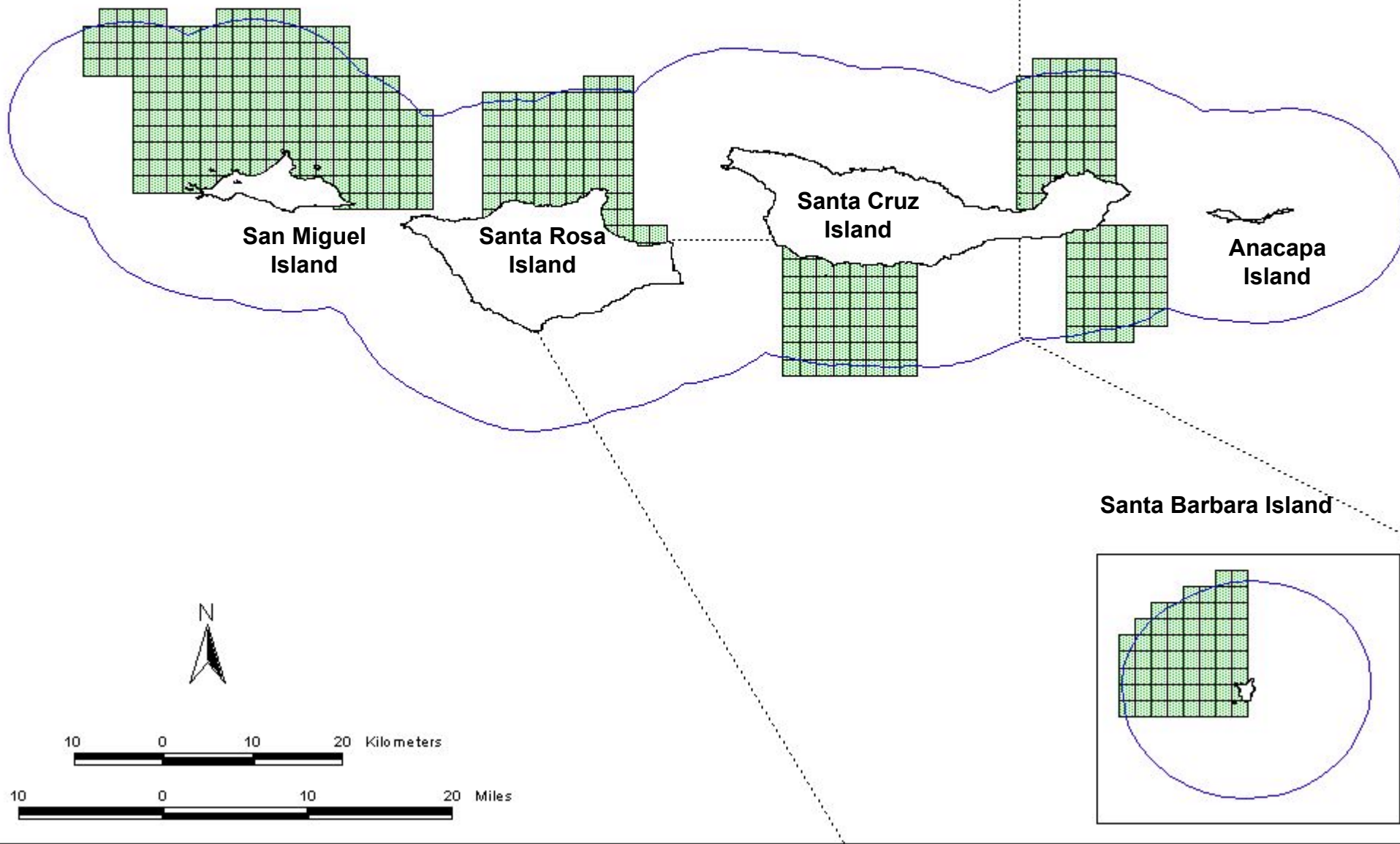
Marine Reserve Concept D2

September 27, 2000



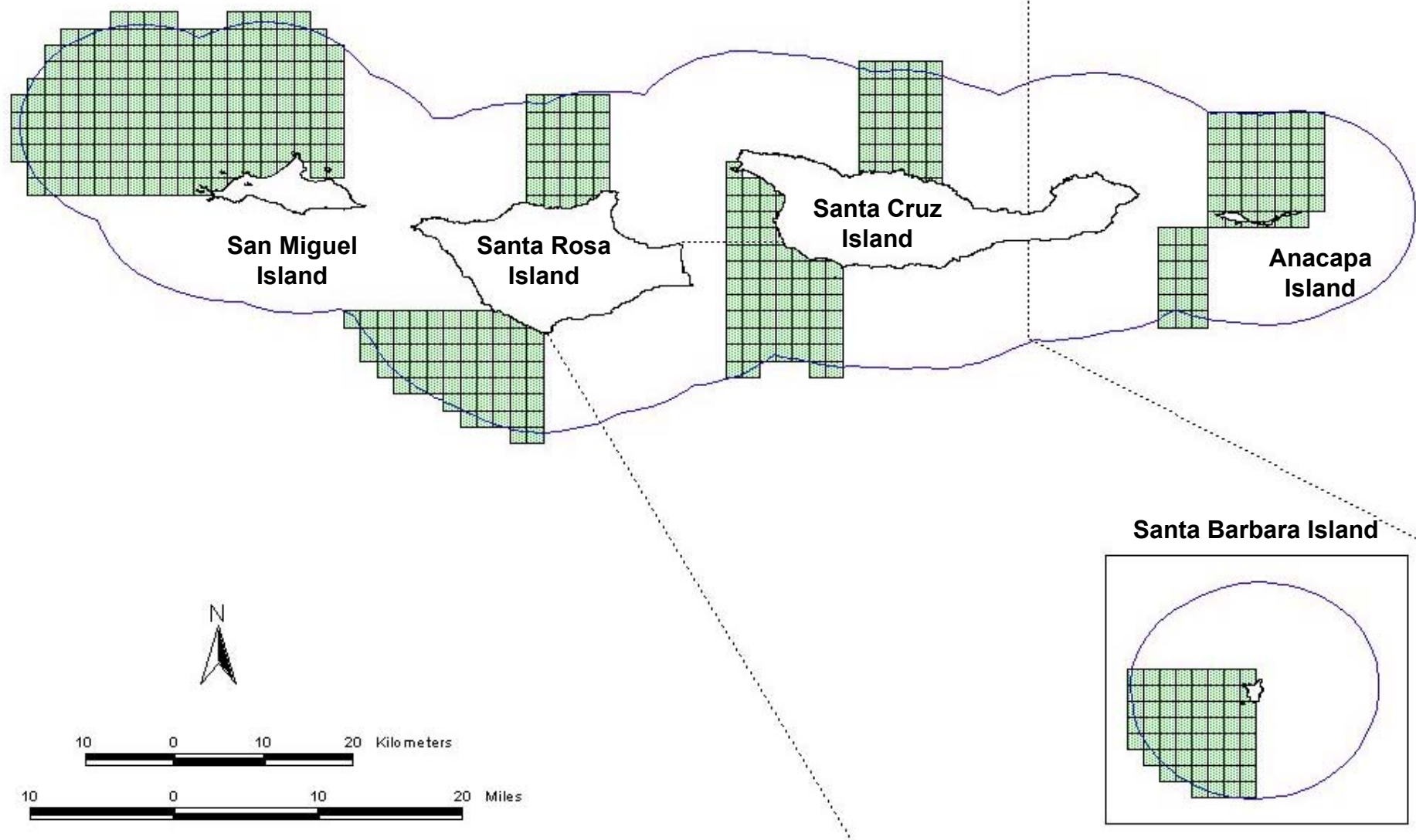
Marine Reserve Concept D3

September 27, 2000



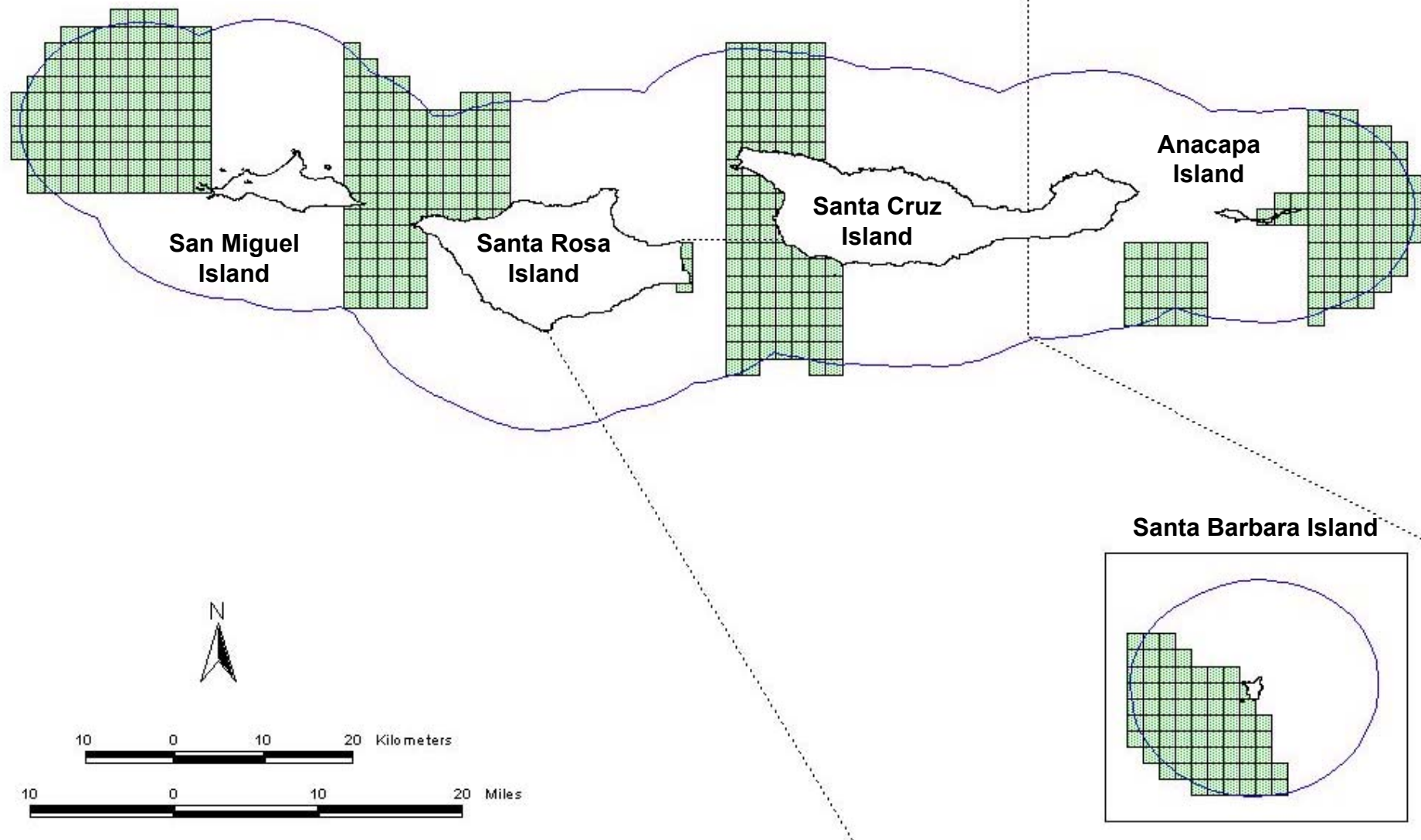
Marine Reserve Concept A

October 18, 2000



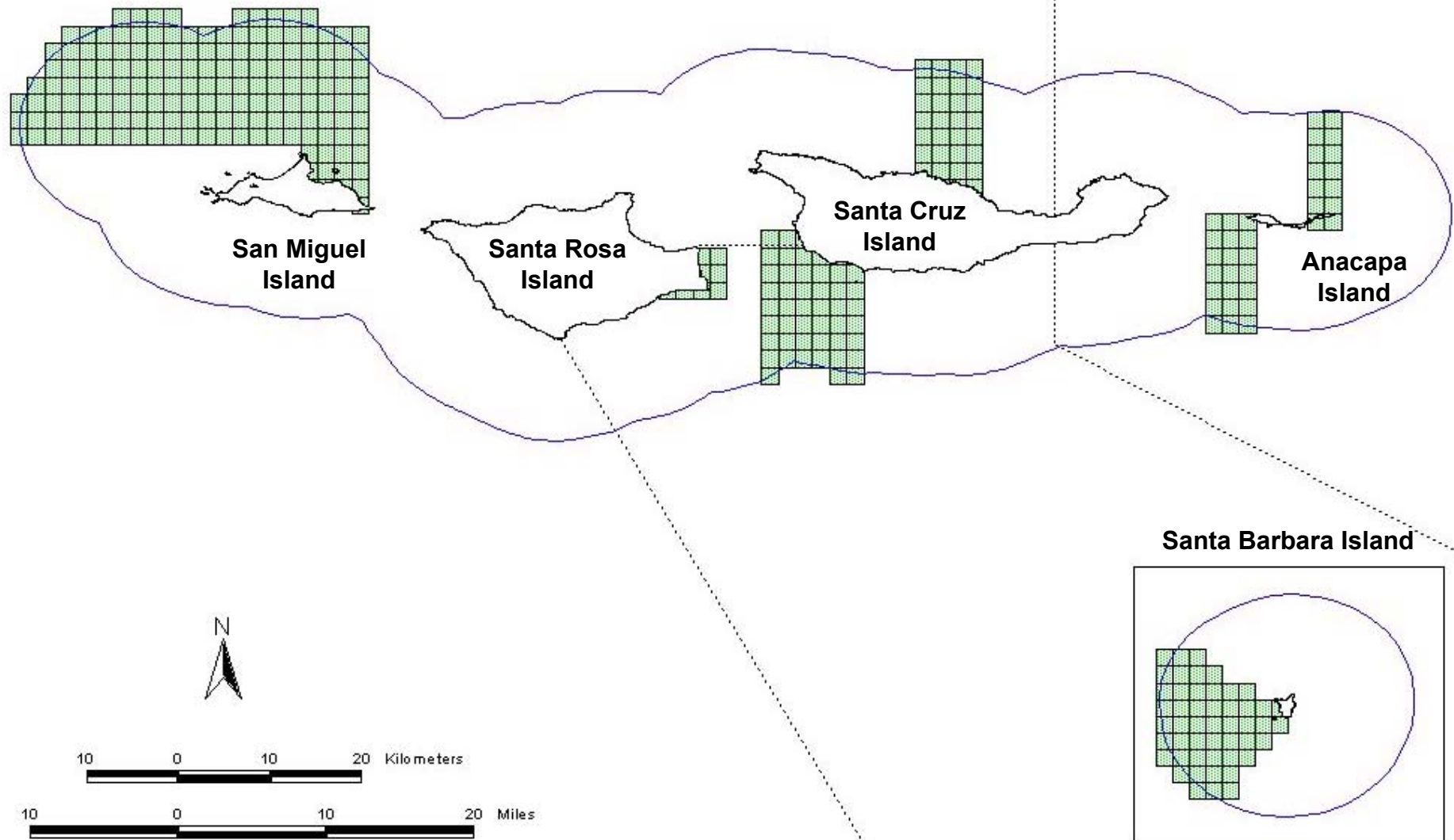
Marine Reserve Concept B

October 18, 2000



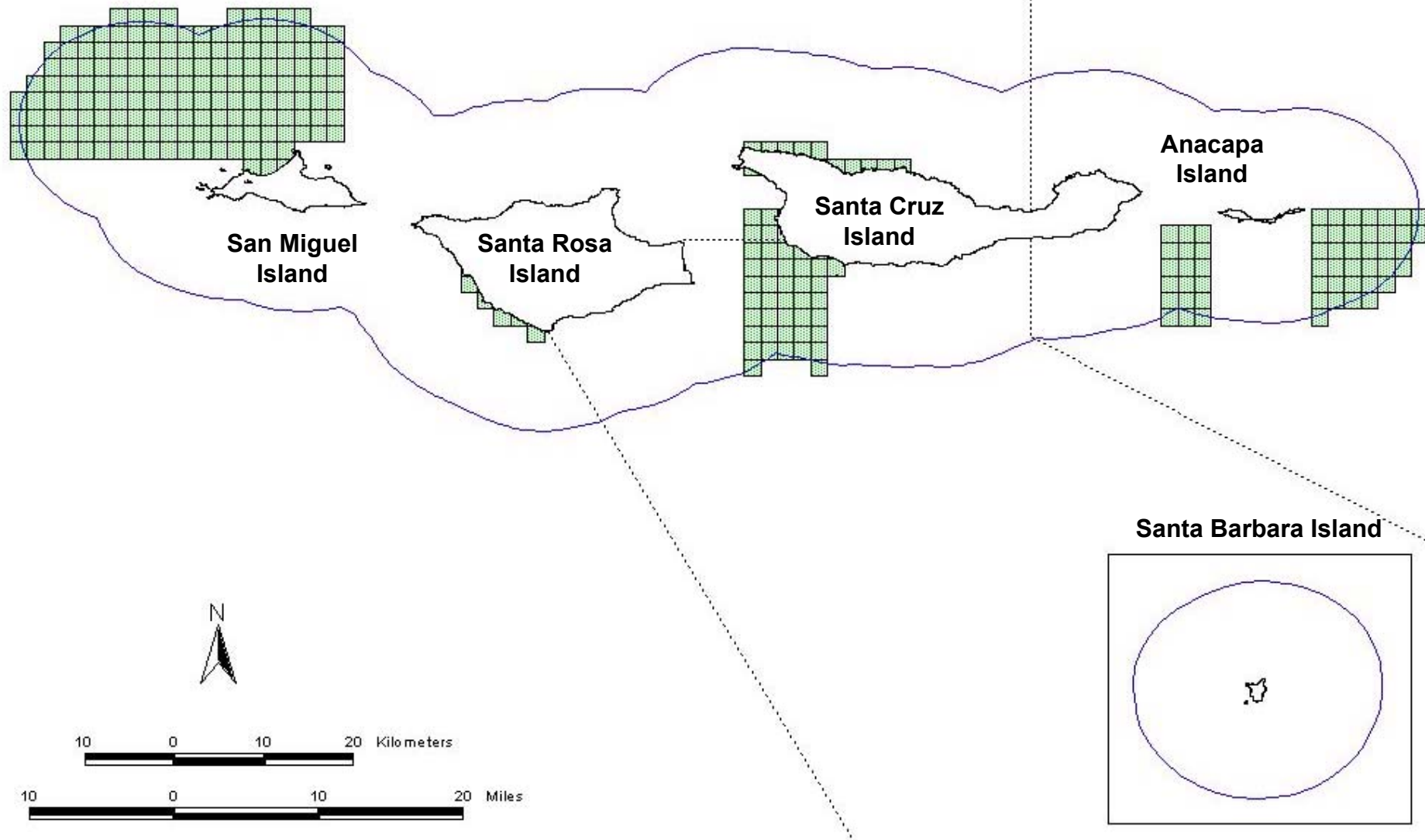
Marine Reserve Concept C

October 18, 2000



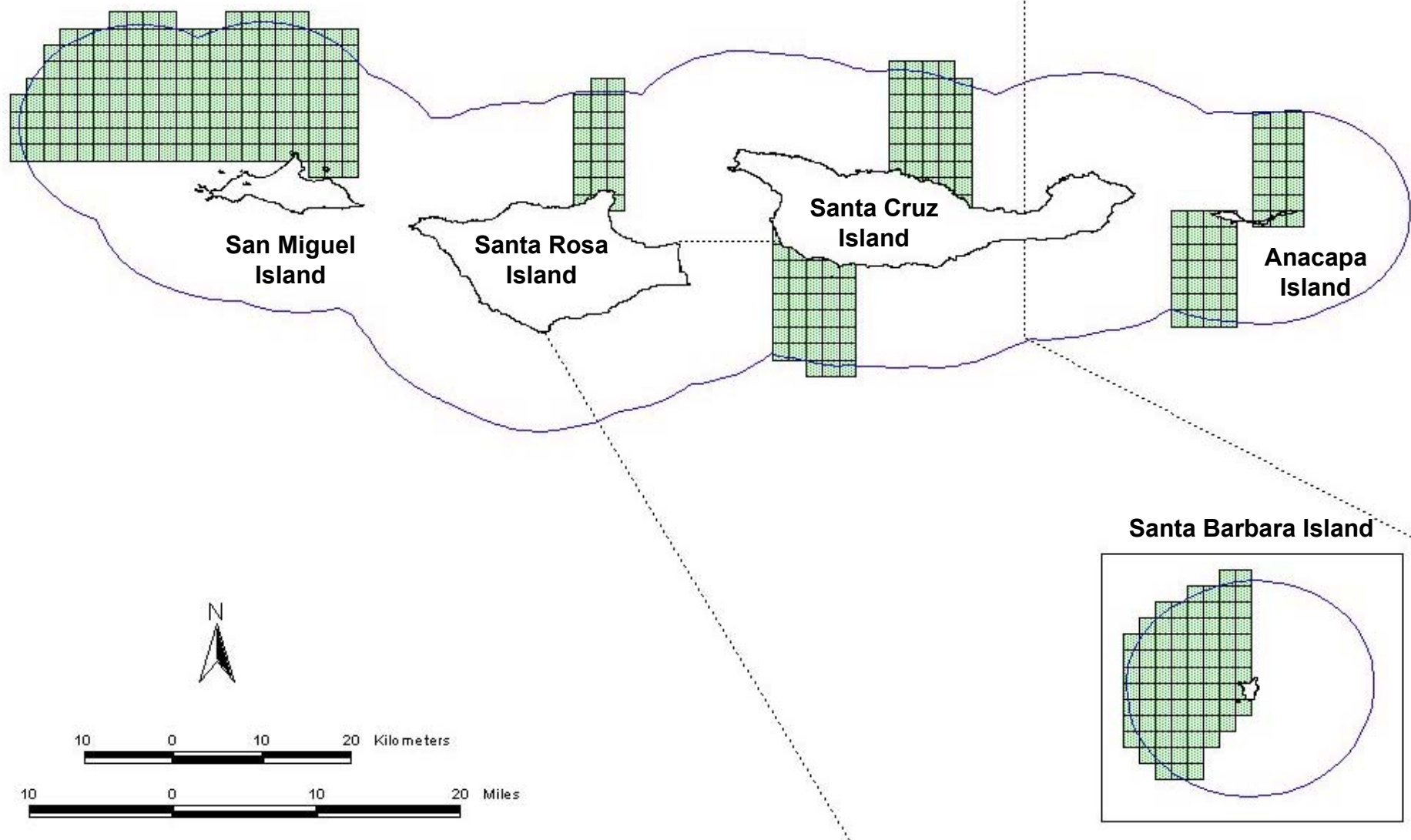
Marine Reserve Concept D

October 18, 2000



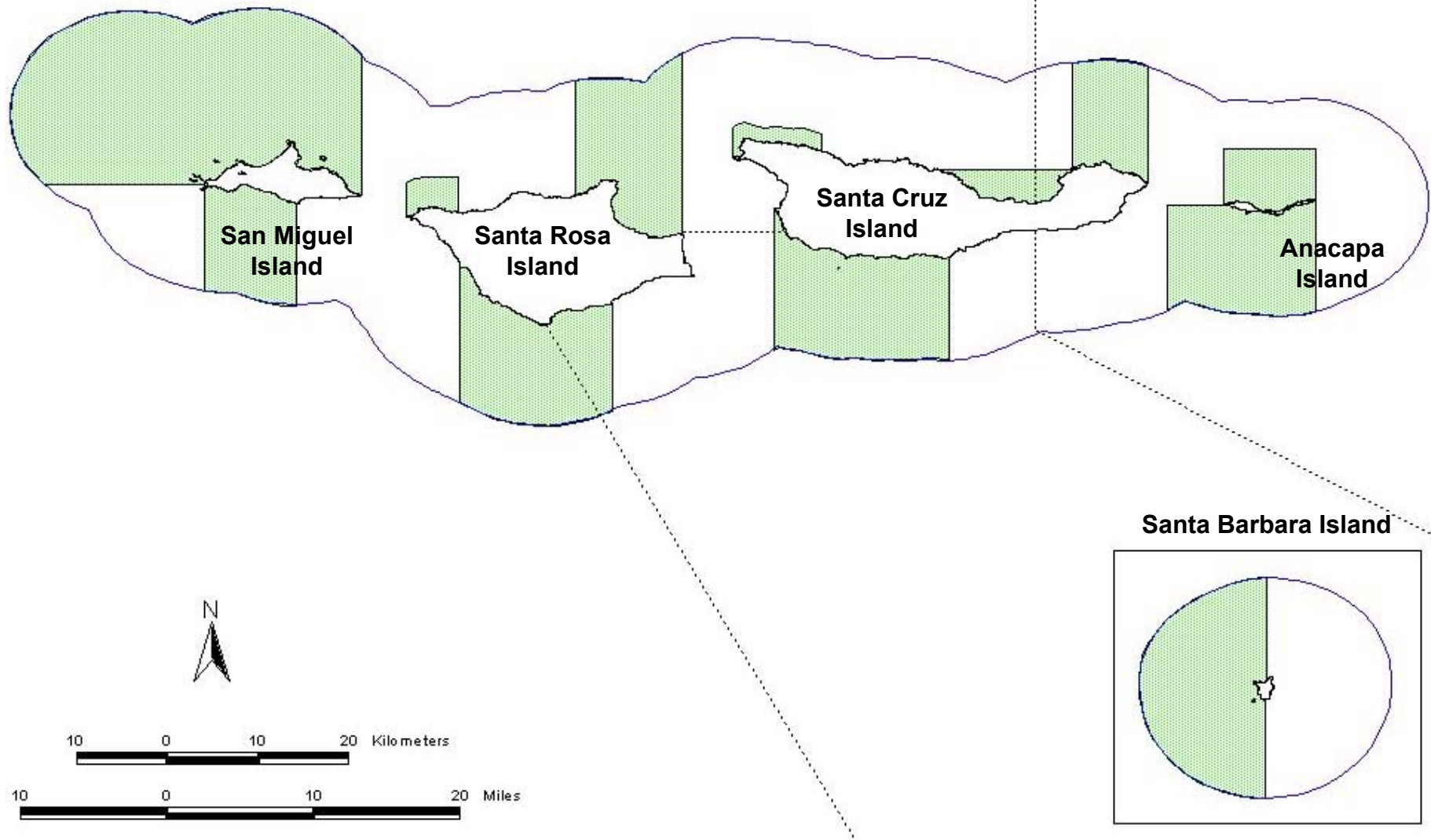
Marine Reserve Concept E

October 18, 2000



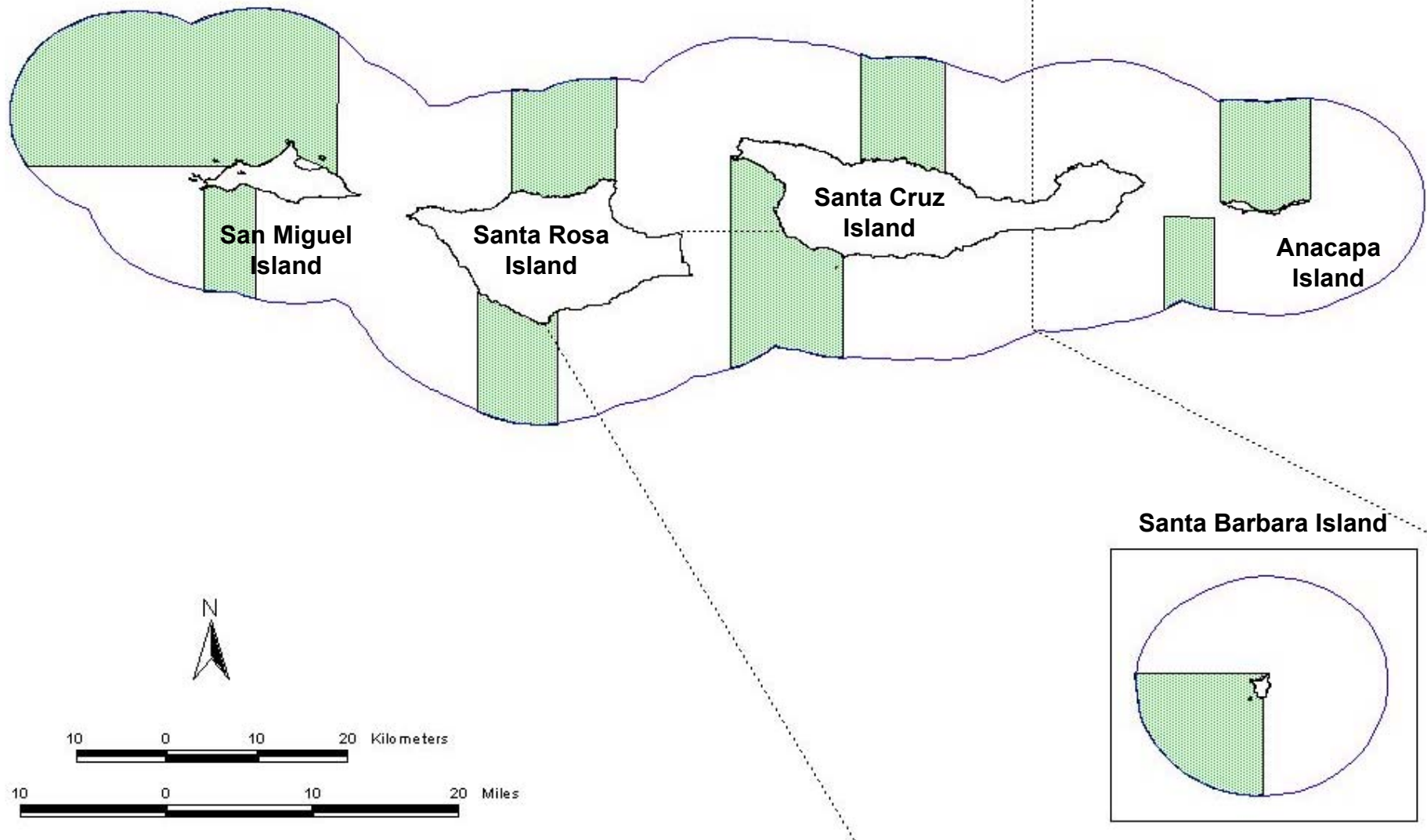
Marine Reserve Concept A

February 21, 2001



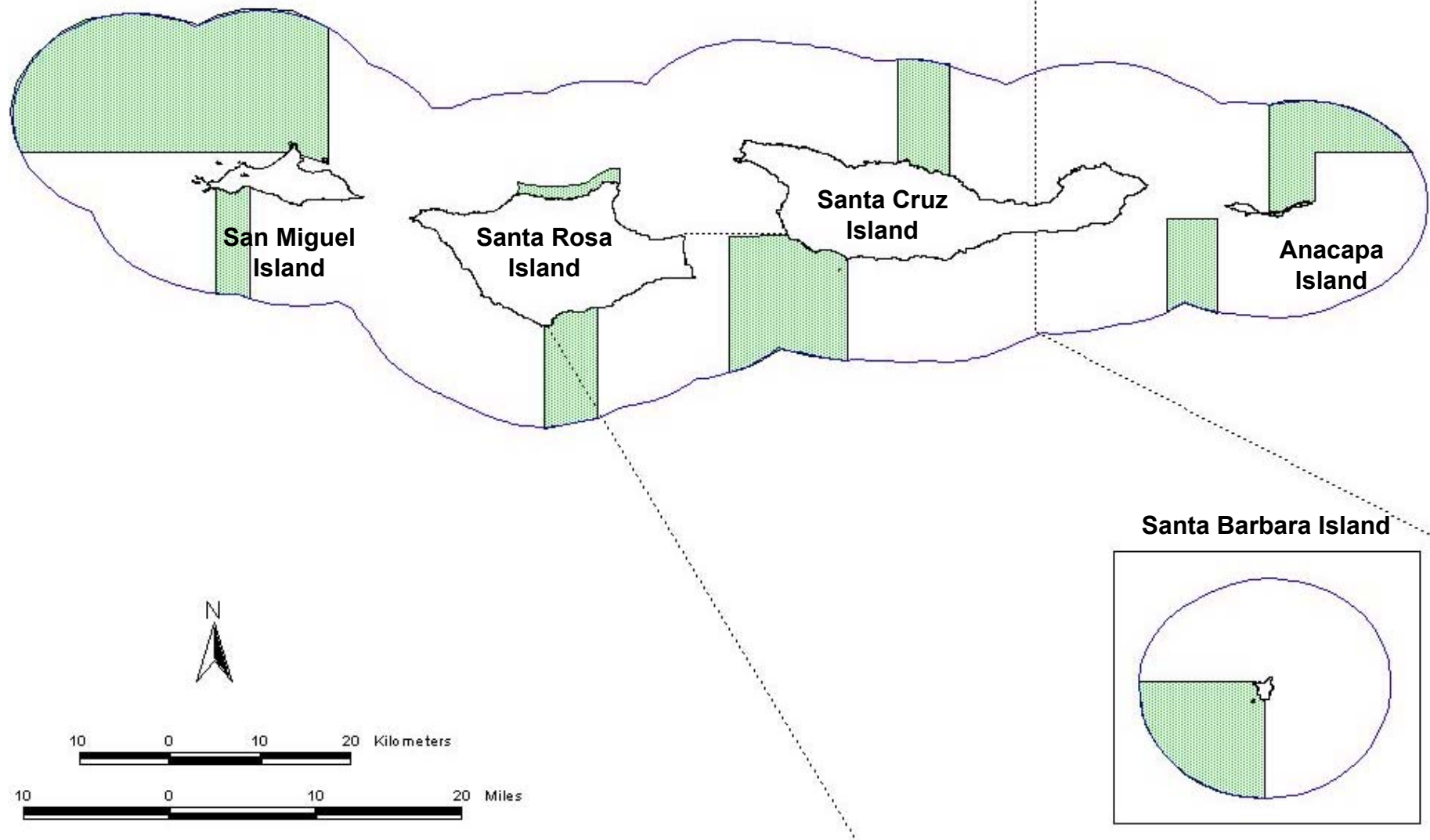
Marine Reserve Concept B

February 21, 2001



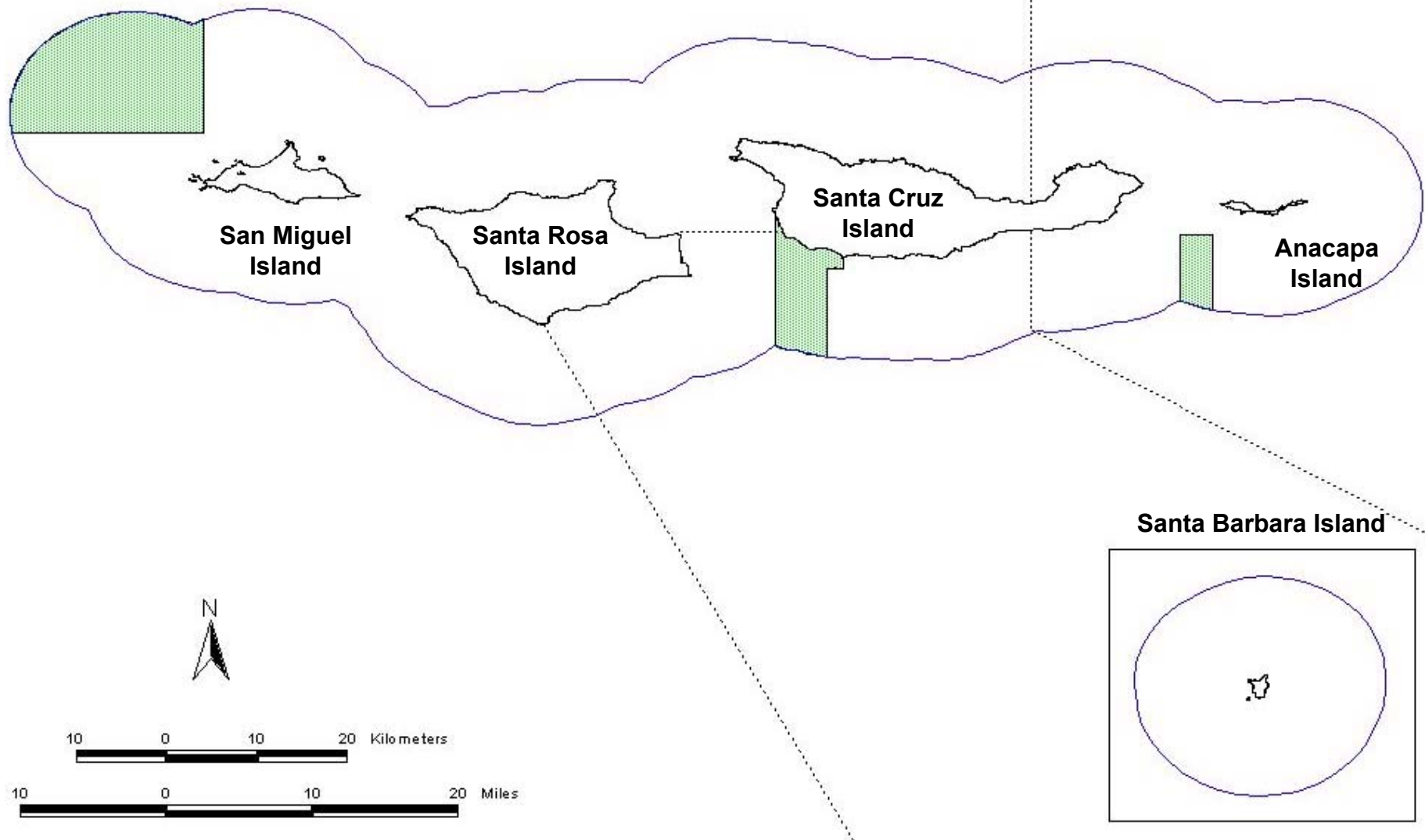
Marine Reserve Concept C

February 21, 2001



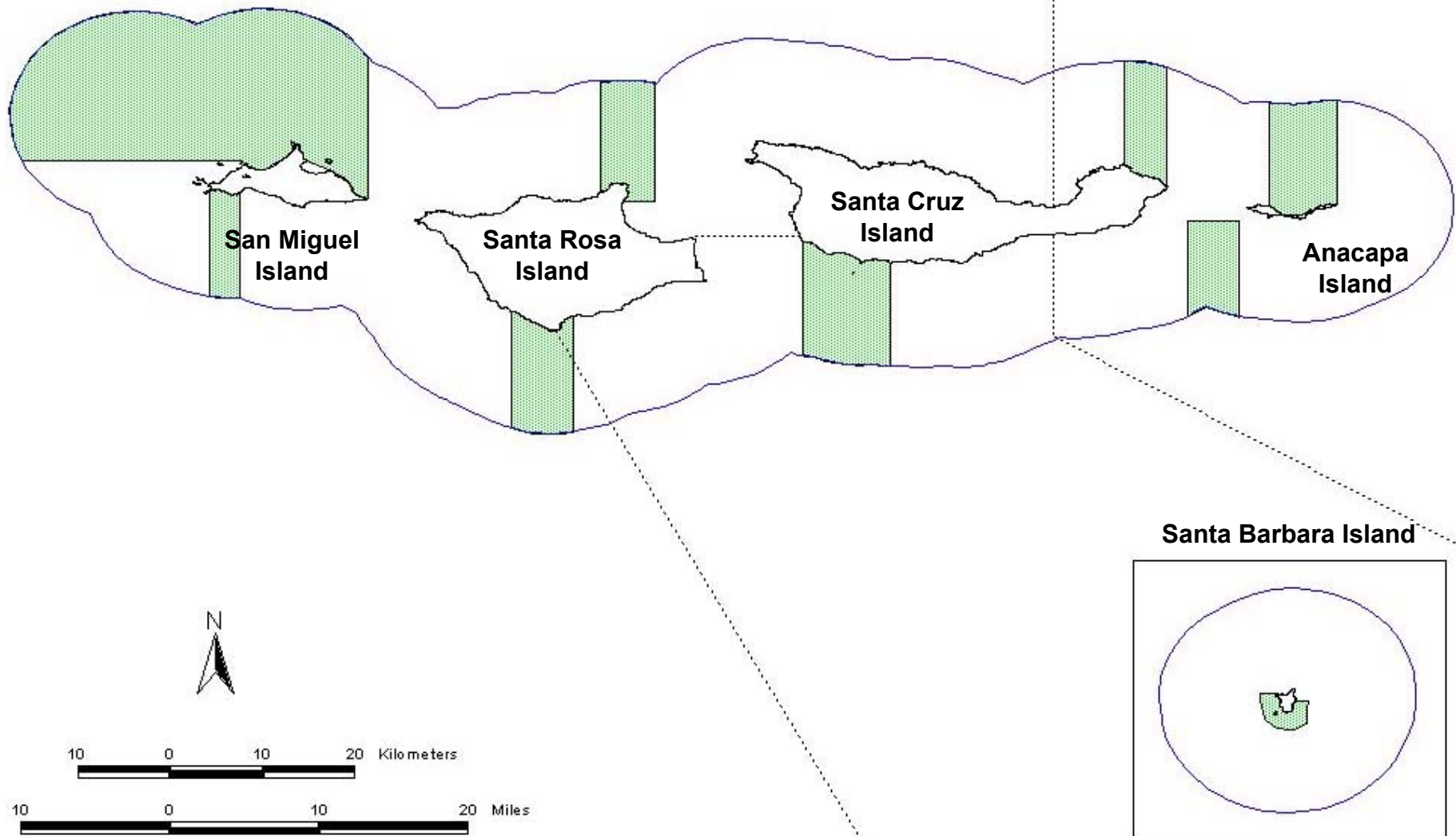
Marine Reserve Concept D

February 21, 2001



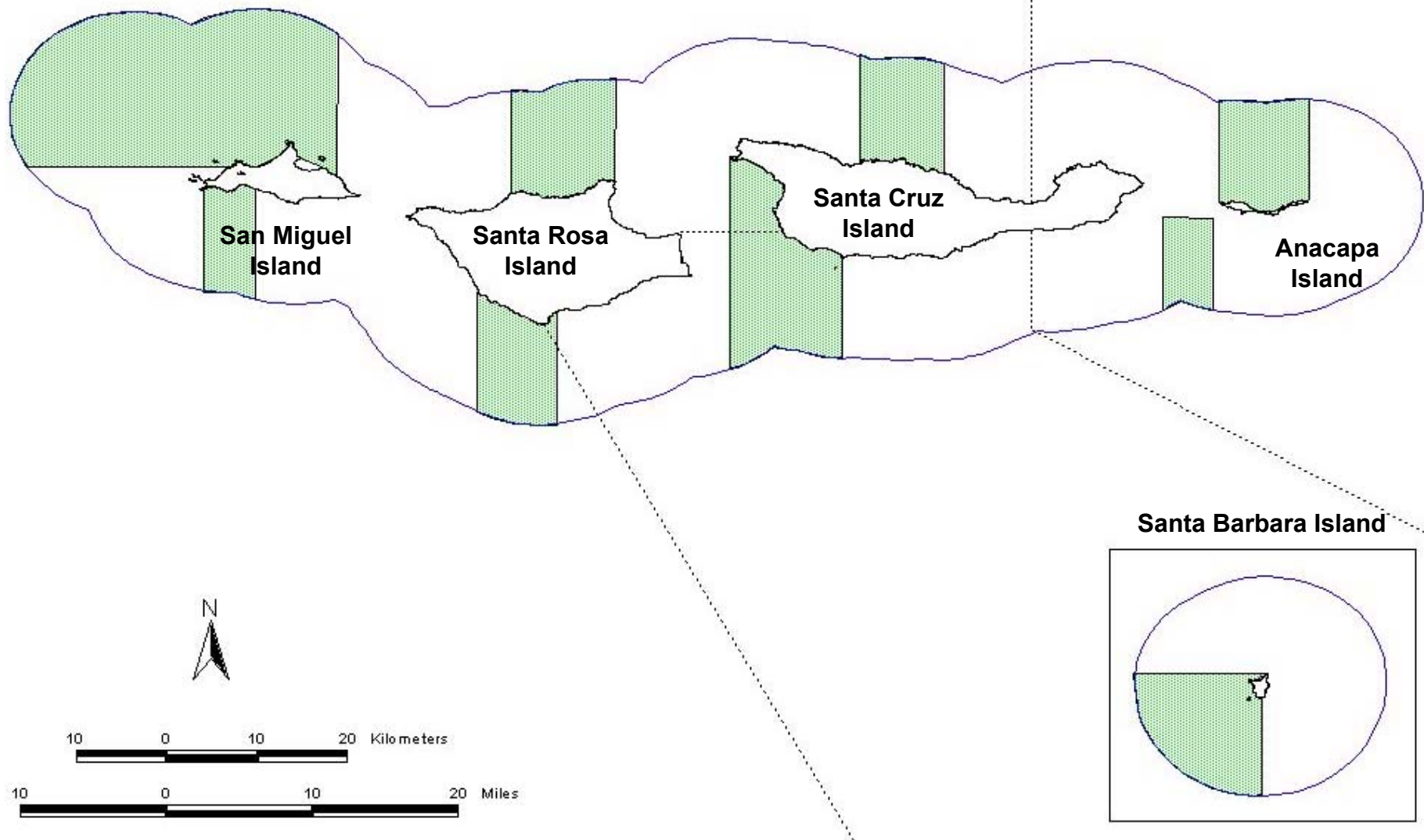
Marine Reserve Concept E

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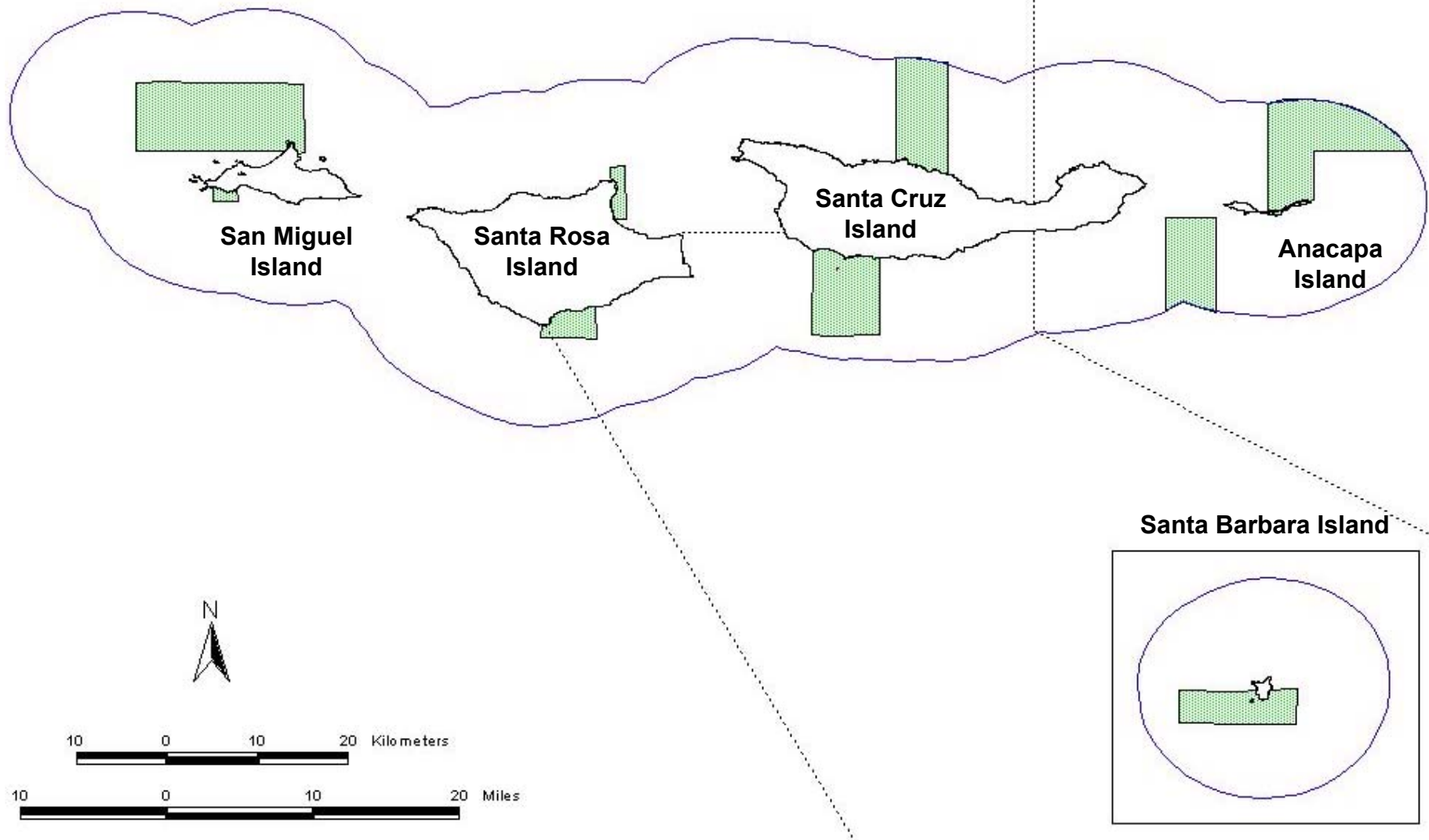
Marine Reserve Concept A

March 16, 2001



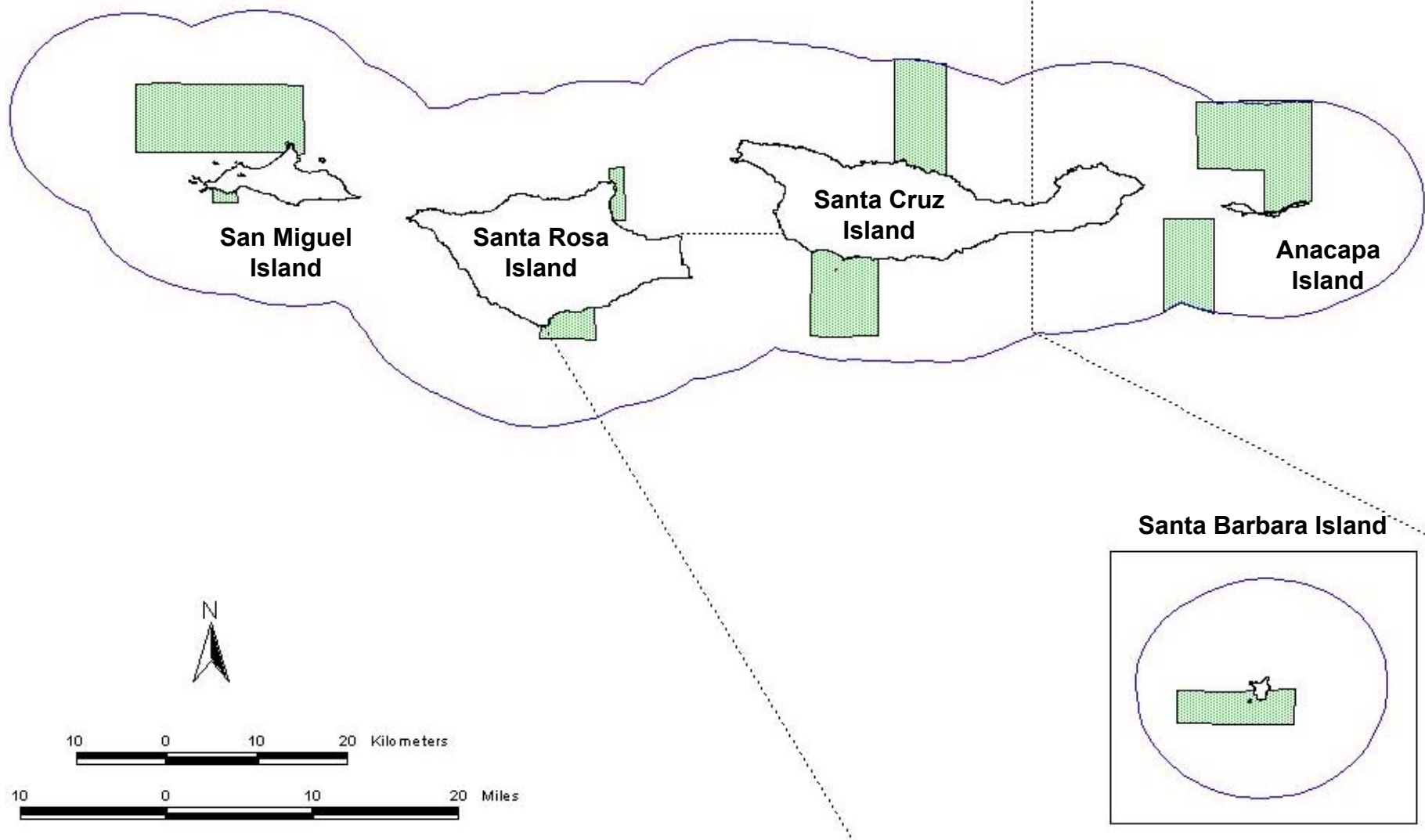
Marine Reserve Concept C1

March 16, 2001



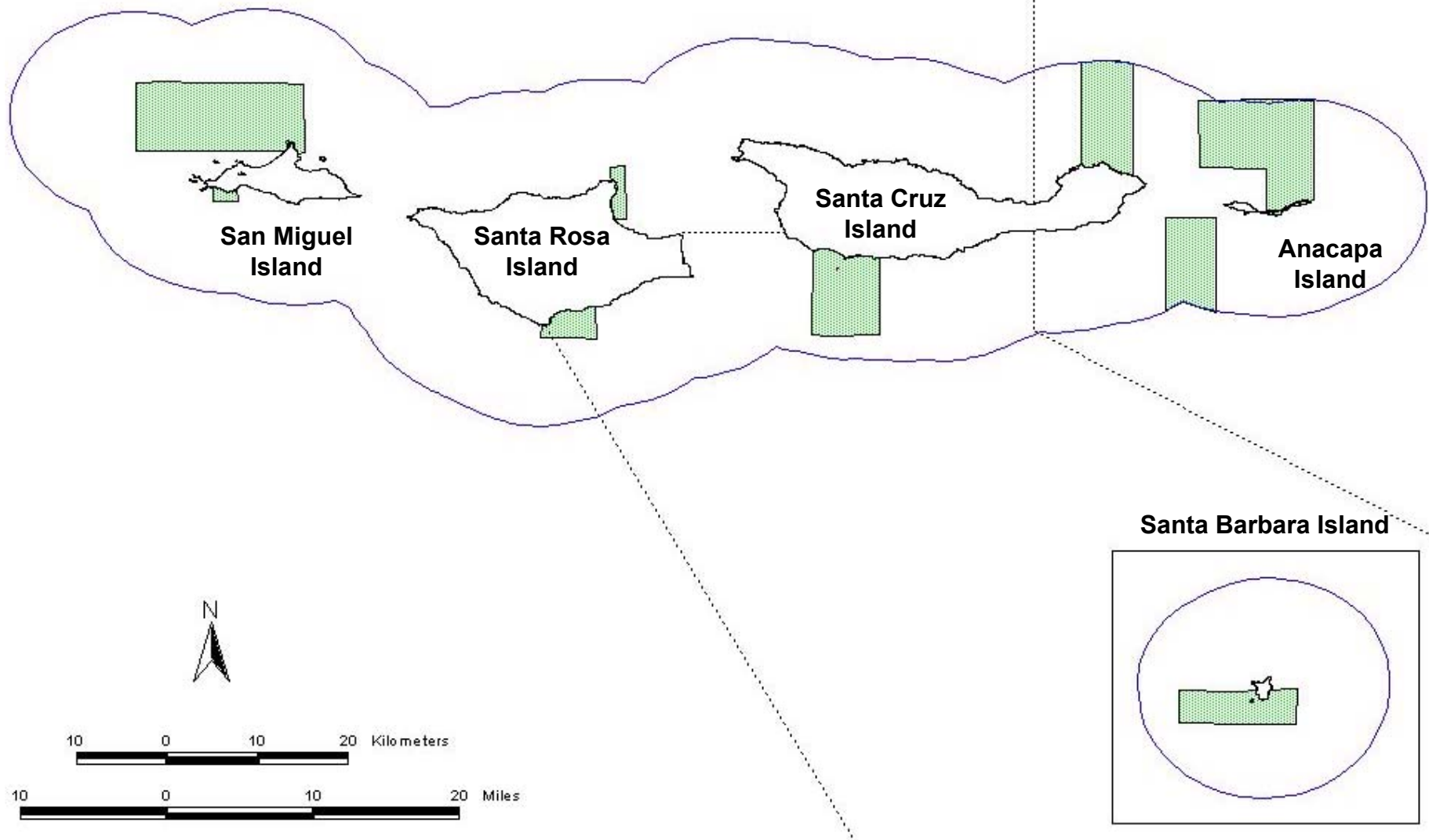
Marine Reserve Concept C2

March 16, 2001



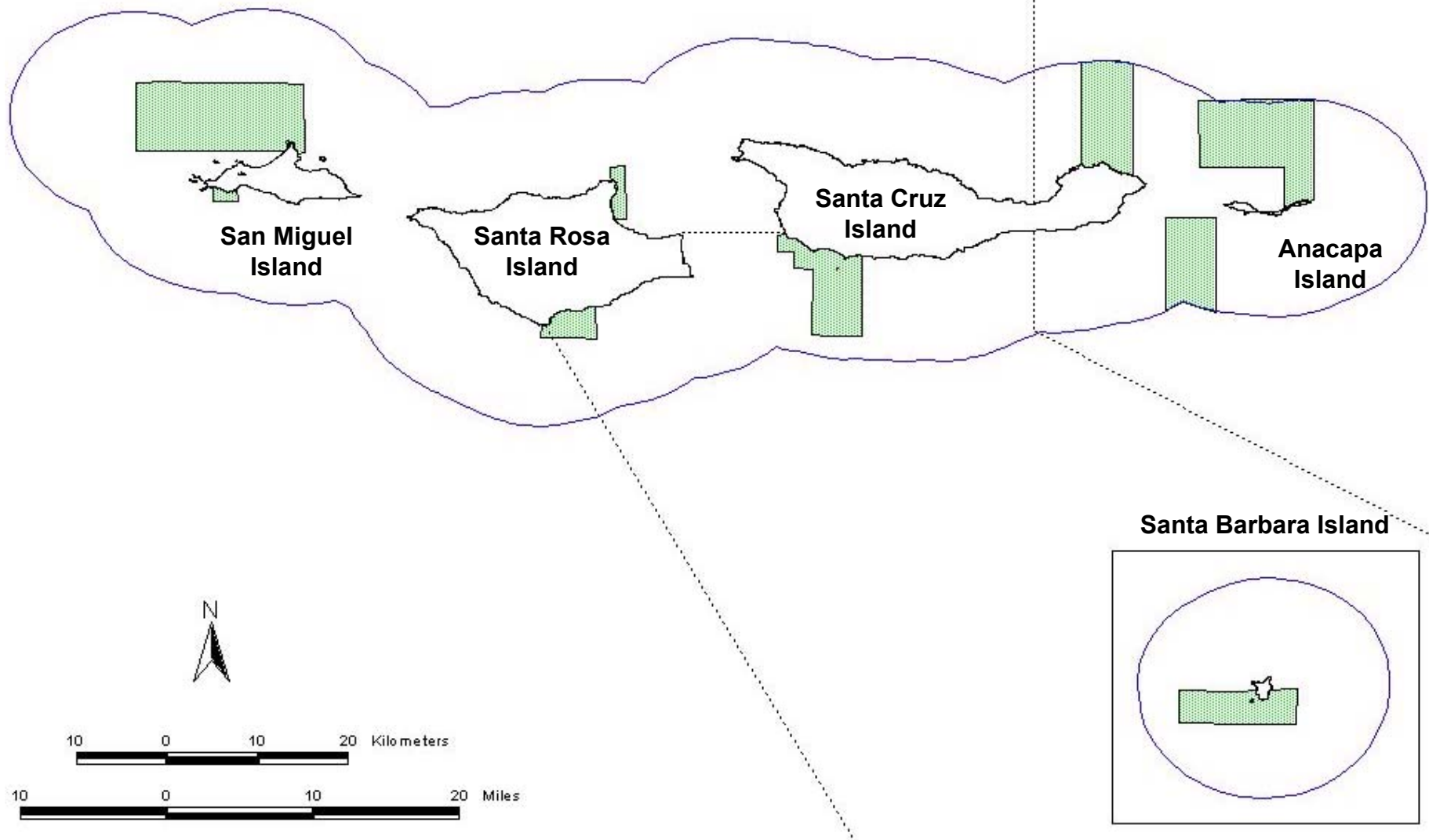
Marine Reserve Concept C3

March 16, 2001



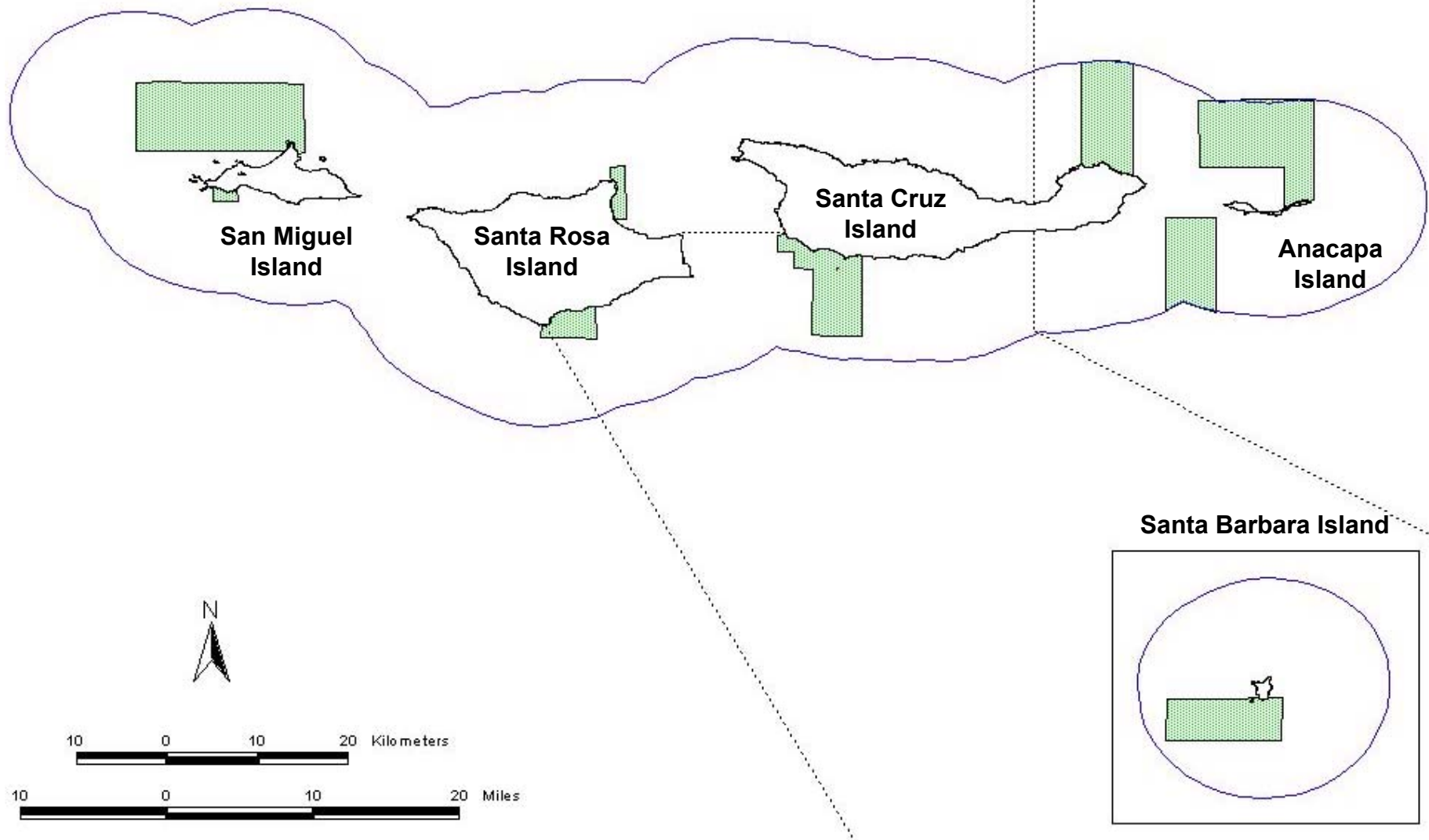
Marine Reserve Concept C4

March 16, 2001



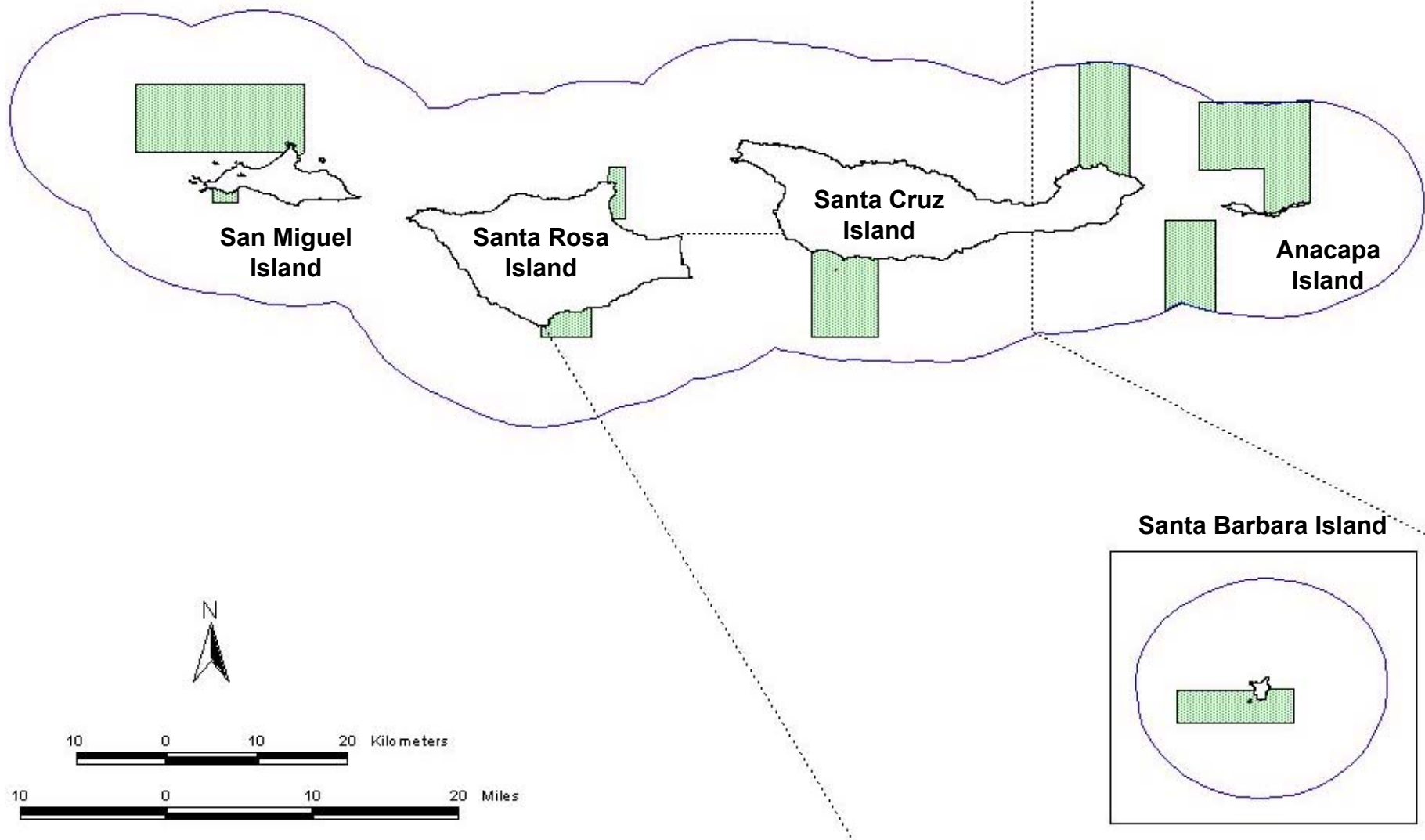
Marine Reserve Concept C5

March 16, 2001



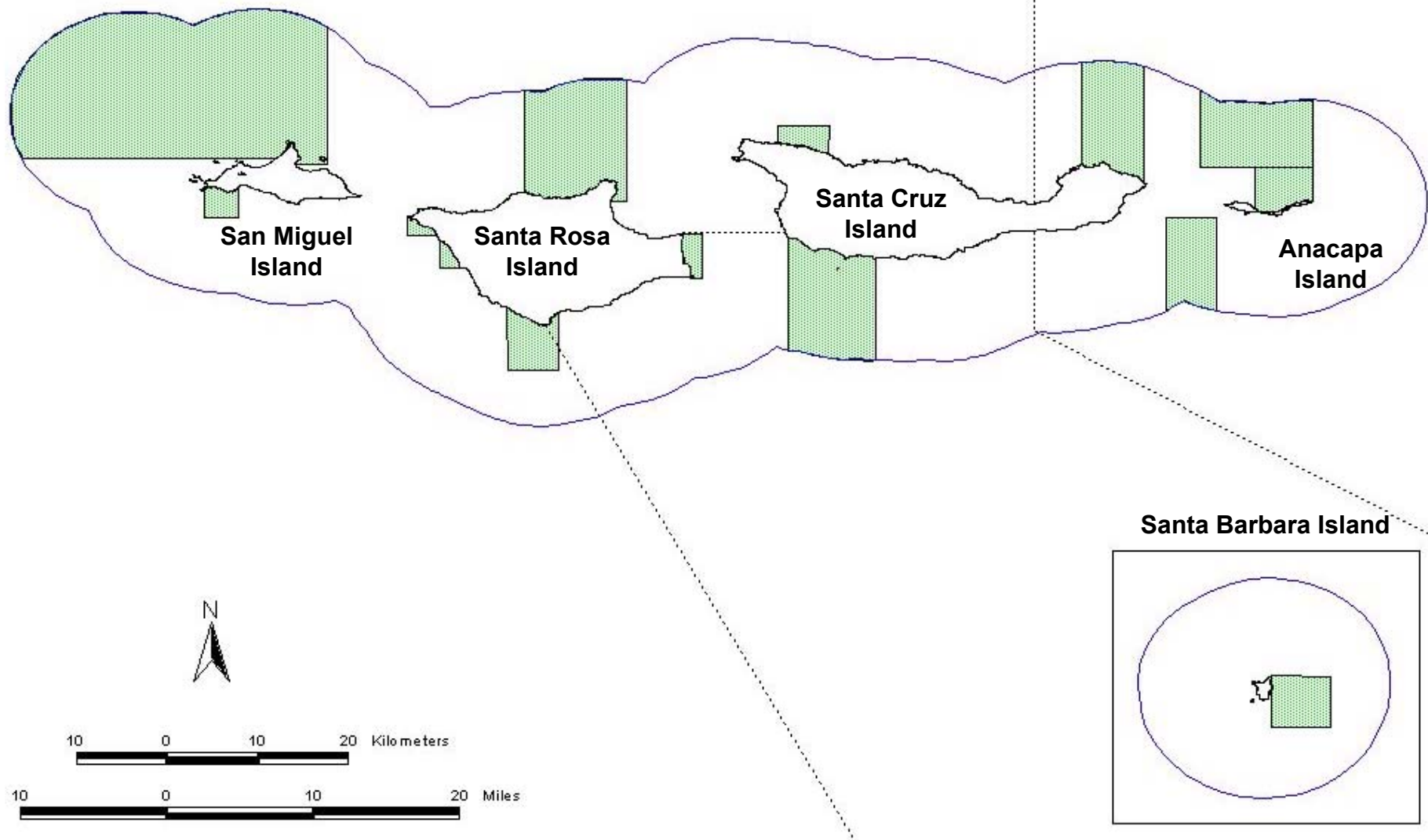
Marine Reserve Concept F

March 16, 2001



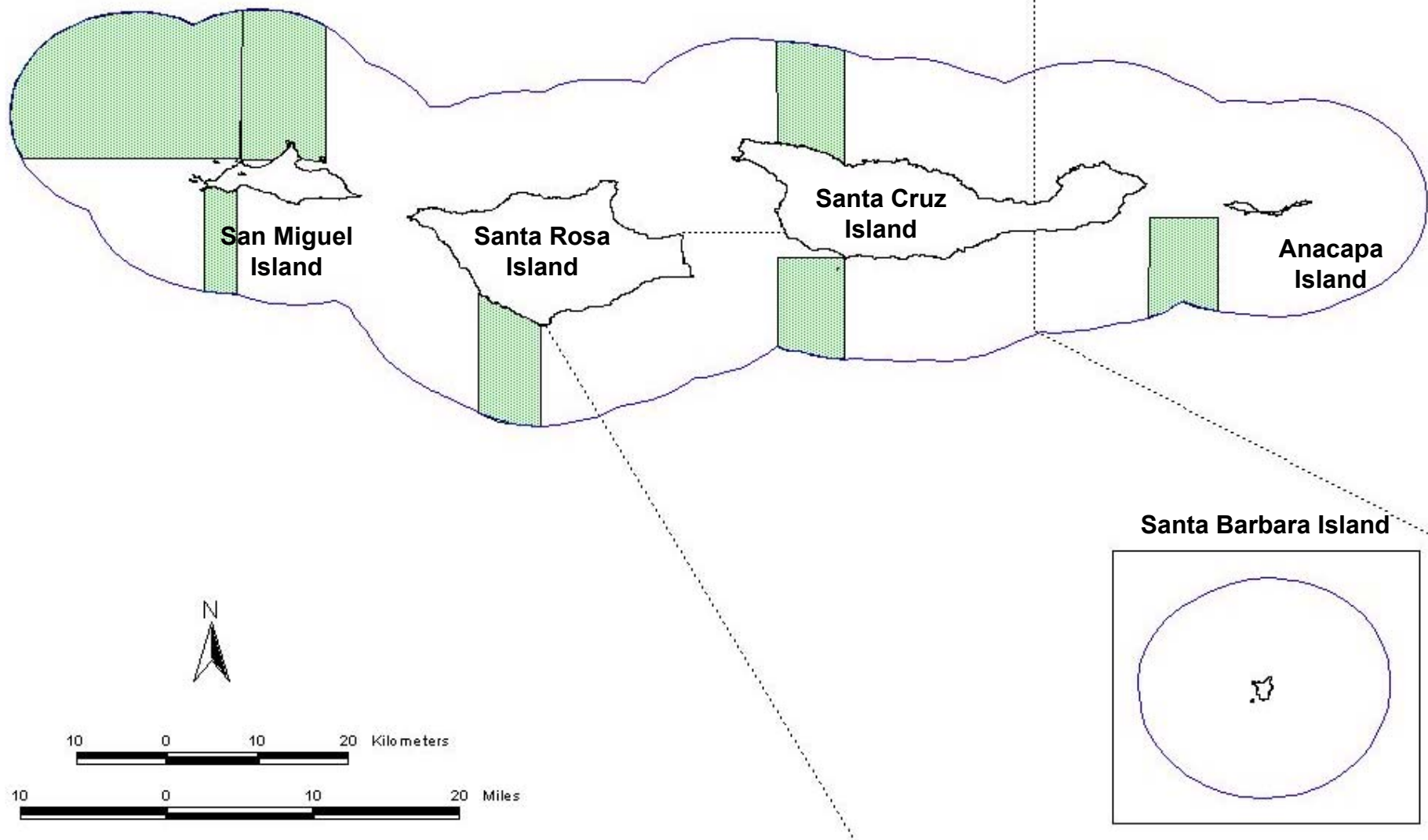
Marine Reserve Concept G

March 16, 2001



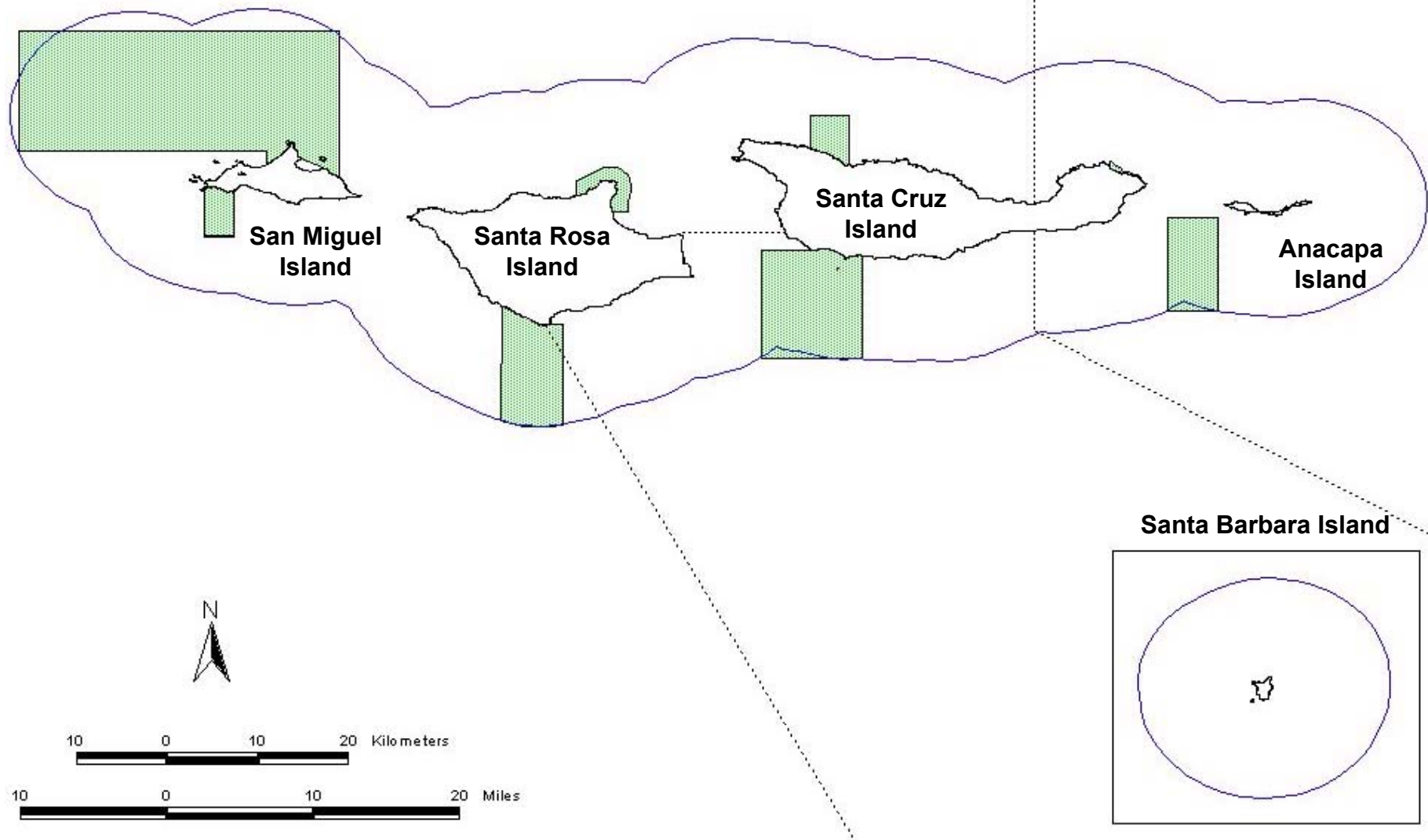
Marine Reserve Concept H

March 16, 2001



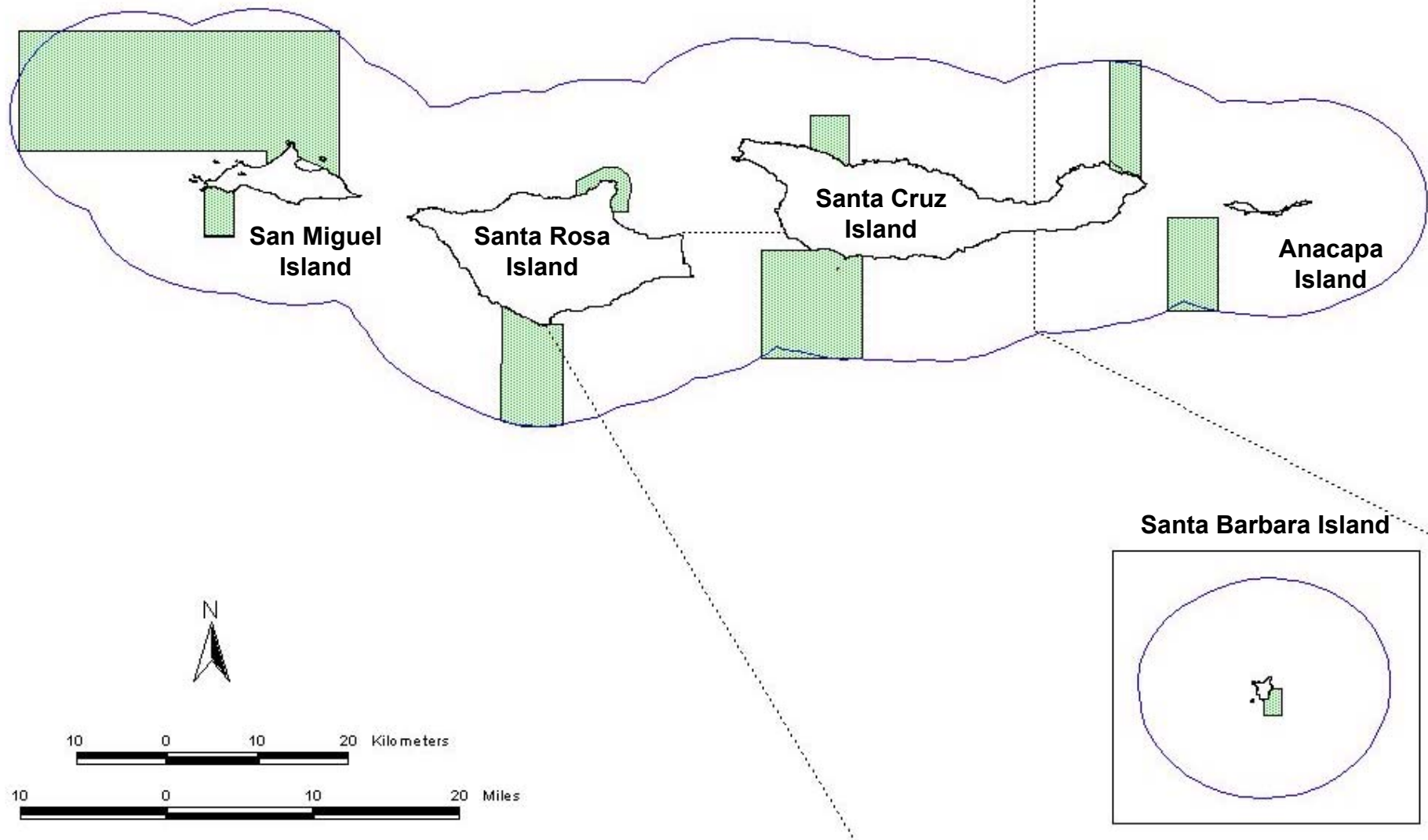
Marine Reserve Concept I(1)

March 16, 2001



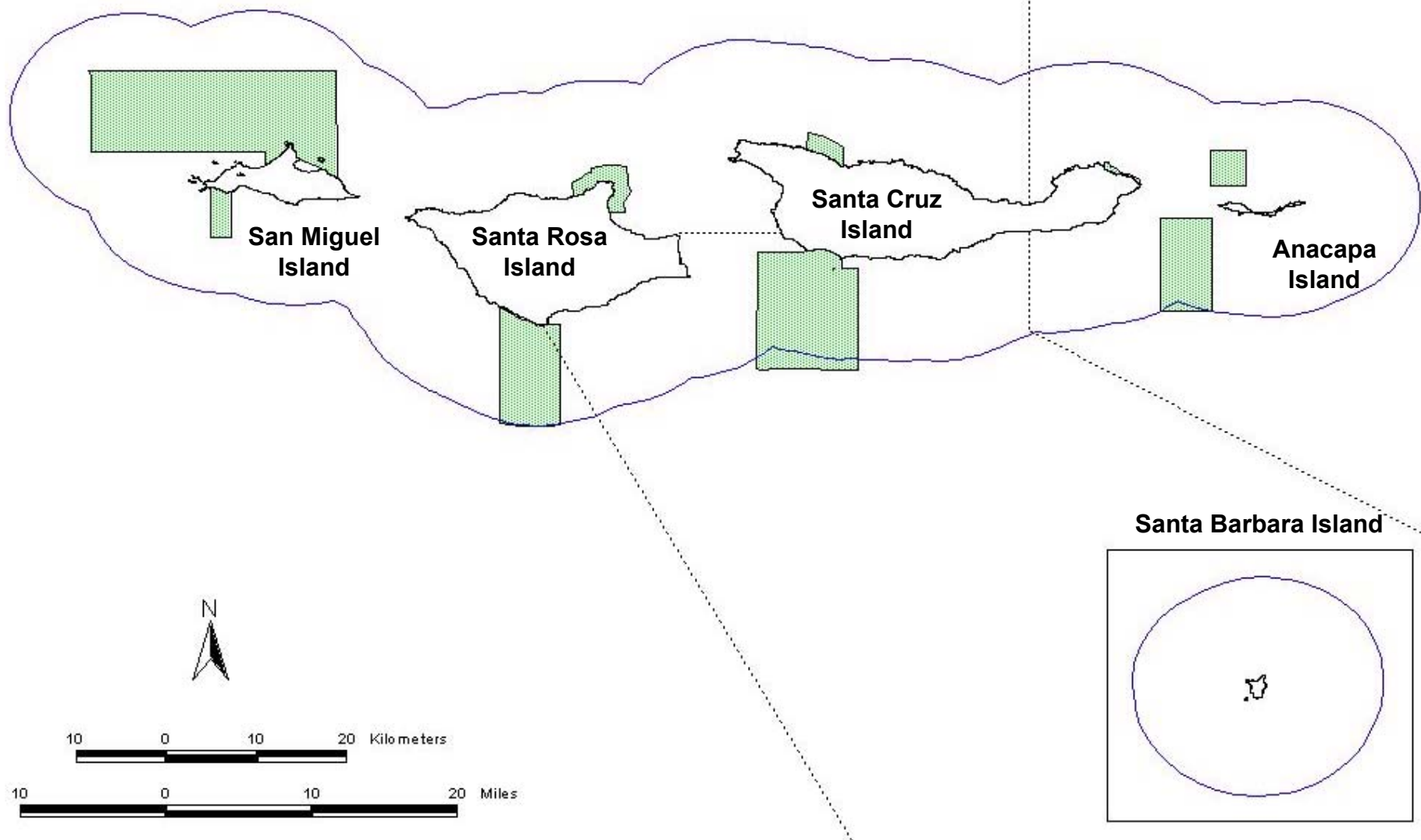
Marine Reserve Concept I(2)

March 16, 2001



Areas of Overlap of the Marine Reserves Working Group

May 16, 2001

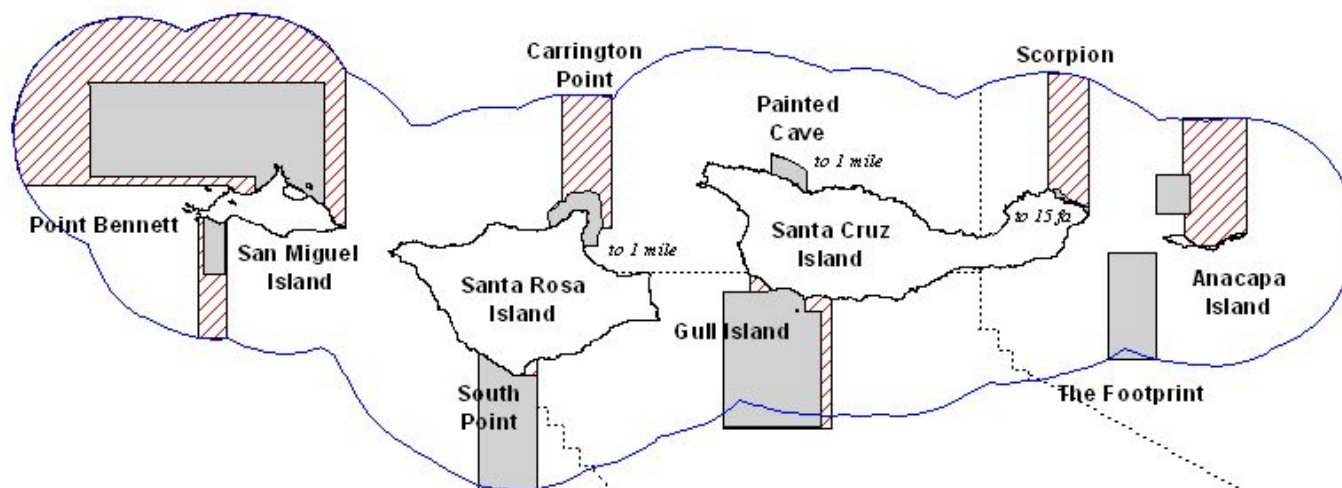


Composite Map of Areas of Overlap and Non-Overlap

May 16, 2001

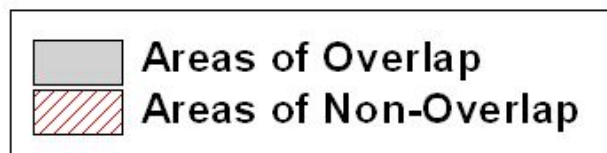


Oregonian Bioregion

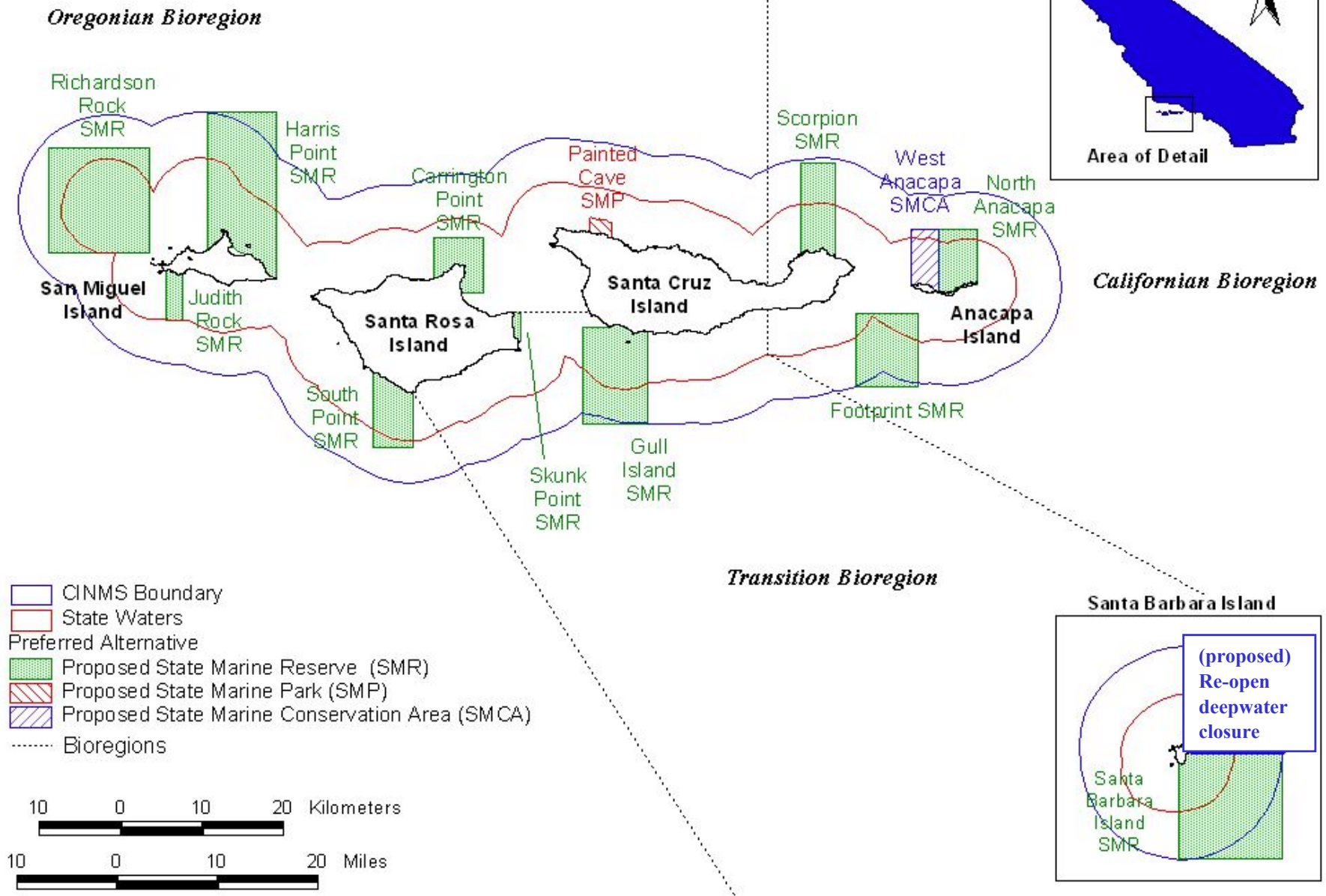


Californian Bioregion

Transition Zone



Preferred Alternative Marine Protected Area Network for the Channel Islands National Marine Sanctuary



ECOLOGICAL REPRESENTATION

Ecological Criteria	Total In CINMS	Total In MPAs	Percent of Total in MPAs
1. Sandy Coast (mi)	43.5	10.5	24%
2. Rocky Coast (protected) (mi)	59.2	17.3	29%
3. Rocky Coast (exposed) (mi)	42.5	11.1	26%
4. Soft Sediment (0-30 m) (nmi ²)	84.9	28.6	34%
5. Hard Sediment (0-30 m) (nmi ²)	48.0	13.6	28%
6. Soft Sediment (30-100 m) (nmi ²)	331.4	92	28%
7. Hard Sediment (30-100 m) (nmi ²)	37.4	7.7	21%
8. Soft Sediment (100-200 m) (nmi ²)	247.1	69.9	28%
9. Hard Sediment (100-200 m) (nmi ²)	-	3.1	-
10. Soft Sediment (>200 m) (nmi ²)	564.7	120.3	21%
11. Hard Sediment (>200 m) (nmi ²)	-	3.1	-
12. Emergent Rocks (nearshore) (no.)	519	163	31%
13. Emergent Rocks (offshore) (nmi ²)	39	7.1	28%
14. Submarine Canyons (nmi ²)	36	12	33%
15. Kelp Forest (nmi ²)	23.9	5.0	21%
16. Eelgrass (nmi ²)	0.6	0.2	30%
17. Surfgrass (nmi ²)	23.2	6.4	28%

Maximum Potential Commercial Impacts

Commercial Fishing	Average Annual Value in CINMS	Maximum Potential Loss of Ex-Vessel Revenue	Percent
Squid	\$ 13,046,135	\$ 1,733,292	13.3
Urchins	\$ 5,257,819	\$ 906,383	17.2
Spiny Lobster	\$ 922,230	\$ 149,133	16.2
Prawn	\$ 703,391	\$ 114,343	16.3
Rockfish	\$ 549,223	\$ 122,485	22.3
Crab	\$ 343,587	\$ 52,991	15.4
Tuna	\$ 305,623	\$ 40,535	13.3
Wetfish	\$ 301,524	\$ 61,673	20.5
California Sheephead	\$ 235,894	\$ 41,738	17.7
Flatfishes	\$ 183,868	\$ 25,968	14.1
Sea Cucumbers	\$ 167,711	\$ 29,689	17.7
Sculpin and Bass	\$ 60,312	\$ 10,143	16.8
Shark	\$ 34,740	\$ 5,678	16.3
Total	\$ 22,112,057	\$ 3,294,051	14.9

Commercial Fishing	Average Annual Value in CINMS	Maximum Potential Loss of Ex-Vessel Revenue	Percent
Kelp	\$ 5,985,376	\$ 390,818	6.5
Total	\$ 5,985,376	\$ 390,818	6.5

Maximum Potential Recreational Impacts And Potential Non-Consumptive Benefits

Consumptive Recreational Activities	Annual Income In CINMS	Maximum Potential Loss of Income	Percent
Charter/Party Boat Fishing	\$ 28,448,391	\$ 4,939,862	17.4
Charter/Party Boat Diving	\$ 3,622,570	\$ 796,837	22.0
Private Boat Fishing	\$ 13,868,556	\$ 2,581,790	18.6
Private Boat Diving	\$ 1,706,042	\$ 470,486	27.6
Total	\$ 47,645,559	\$ 8,788,975	18.4

Non-consumptive Recreational Activities	Annual Income In CINMS	Income in Preferred Network	Percent
Whale Watching	\$ 5,212,422	\$ 902,156	17.3
Non-consumptive Diving	\$ 2,249,583	\$ 513,759	22.8
Sailing	\$ 815,924	\$ 111,912	13.7
Kayaking/Island Sightseeing	\$ 323,147	\$ 136,566	42.3
Total	\$ 8,601,076	\$ 1,664,393	19.4



Agency Coordination Monitoring / Evaluation Enforcement



Documents Provided

- ✓ A Recommendation for Marine Protected Areas in the Channel Islands National Marine Sanctuary

Supplemental Volumes:

- ✓ Volume 2 – Agency Activities and Integration with Management
- ✓ Volume 3 – Socio-Economic Analyses
- ✓ Volume 4 – Socio-Economic Data and Methods
- ✓ Volume 5 – Scientific Panel Recommendation
- ✓ Volume 6 – Reserve Mapping Options (49 maps)
- ✓ Volume 7 – Meeting Summaries
- ✓ Volume 8 – Ethnographic Survey
- ✓ Volume 9 – Species of Interest in the CINMS
- ✓ Volume 10 – Print Media Coverage Report
- ✓ Volume 11 – Facilitators Report
- ✓ Volume 12 – Public Comments (multiple binders)

